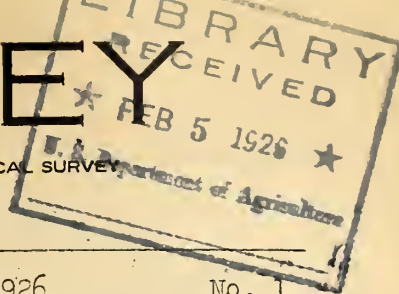


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THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE



Vol. 7.

Washington, D. C., January 29, 1926

No. 1.

GENERAL NOTES

The annual meeting of the Committee for THE SURVEY was held on January 15, and policies for the coming year thoroughly discussed. THE SURVEY is entering upon its seventh year, and the fact that no month has been without an issue during the six years of its existence indicates its continued usefulness to the personnel of the Bureau. The house-organ for 1926 should profit greatly from the suggestions and criticisms offered both on the part of those present at the meeting and through correspondence from the field. Any further suggestions as well as news items are welcome at any time and should be submitted through the proper divisional representative. The Committee for THE SURVEY for the calendar year 1926, as appointed by Doctor Nelson, is as follows: Dr. W. B. Bell, chairman, representing Economic Investigations; W. C. Henderson, for the Bureau as a whole; Edward A. Preble, Biological Investigations; W. F. Bancroft, Alaska Investigations; E. R. Kalmbach, Food Habits Research; D. Monroe Green, Fur Resources; Lisle Morrison, Game and Bird Reservations; Dr. T. S. Palmer, Importations; W. Roy Dillon, Migratory-Bird Treaty and Lacey Acts; Paul H. Oehser, Administrative Offices; and W. H. Cheesman, Editor.

The Agricultural Appropriation Bill for the year ending June 30, 1927, was reported to the House of Representatives by the Committee on Appropriations on January 23, and carries a recommended total appropriation for the Biological Survey of \$987,365. This is \$385,403 less than for the year 1926 but is \$67,165 more than was recommended by the Bureau of the Budget. For the purchase of lands to be included in the Upper Mississippi River Wild Life and Fish Refuge, the Committee recommends an appropriation of \$25,000 for 1927 as compared with \$400,000 for the current fiscal year. The reduction was made because the appropriation for 1926 will be available until expended, and as the work was not started until after the beginning of the present fiscal year, the new appropriation will be sufficient to carry it on without lowering its efficiency.

Doctor Nelson and Doctor Palmer represented the Biological Survey at the Second National Recreation Conference held January 20 and 21 in the United States Chamber of Commerce, at Washington. Doctor Nelson addressed the conference on "The Present Status of Our Migratory Wild Fowl," and Doctor Palmer presented the report of the Federal Departmental Committee of Wild Life Administration. Other members of the Bureau present at various sessions were W. C. Henderson, Dr. H. H. T. Jackson, Dr. W. B. Bell, and E. A. Preble.

Dr. G. W. Field, formerly in charge of the Division of Game and Bird Reservations, visited offices of the Bureau on January 23.

At a meeting of the Washington Section of the Society of American Foresters, held at the Cosmos Club on the evening of January 28, Doctor Nelson led the discussion on "The Administration of Wild Life and Game."

Hon. W. W. Cory, Deputy Minister, Department of the Interior, Ottawa, Canada, visited the Bureau on January 21 to confer with Doctor Nelson regarding contemplated efforts to introduce the reindeer industry into the northern part of Canada. Canada unquestionably has great areas suitable for reindeer grazing and will perhaps eventually exceed Alaska in the number of reindeer it will contain.

Miss Anna Montgomery, of the Office of Accounts, spent the last week of November and the entire month of December on annual leave, returning to the office on January 2.

Paul H. Oehser, of the Editorial Office, spent from December 14 to January 4 on annual leave at his home in Forestville, N. Y.

A number of Christmas bird censuses were taken by various members of the Bureau, in some cases in company with other ornithologists, in several sections of the country. The results will be published in the January-February issue of Bird-Lore: At Dogue Creek, Va., by E. A. Preble, Alexander Wetmore, and W. L. McAtee; Pope Creek to La Plata, Md., by F. M. Uhler and E. R. Kalmbach; Leon County, Fla., by Herbert L. Stoddard; and at Lewisburg, W. Va., by Charles O. Handley.

The following publication of the Bureau was issued in January: "Trapping Ducks for Banding," by Frederick C. Lincoln. Department Circular 362. Issued, January 13.

Manuscripts have been submitted for outside publication as follows:

Bell, W. B. "Wolf and Coyote Control."
Crouch, W. E. "The Effect of Rodent Poison on Game Birds."
Goldman, E. A. "Breeding Birds of a White Mountain Lake," and "Surplus Game—A Problem in Administration."
Howell, A. Brazier. "On the Faunal Position of the Pacific Coast of the United States."
Jewett, Stanley G. "Oregon's Wonderland."
McAtee, W. L. "Notes on Homoptera from Illinois, with Descriptions of New Forms, Chiefly Eupteryginae," and "Relation of Palaearctic Birds to the More Important Forest Insect Pests."
Murie, Olaus J. "Hunting Caribou with Malemute Jack."
Oderkirk, Galen C. "Ridding the Farm of Rats."
Preble, E. A. "The Western Meadowlark in Northern British Columbia."
Silver, James. "Rat Control and the County Agent."

BIOLOGICAL INVESTIGATIONS

Doctor Jackson represented the Bureau at the annual meeting of the American Association for the Advancement of Science, held in Kansas City, Mo., December 28, 1925, to January 2, 1926. As a member of the Council of this Association, he took an active part in the meeting.

F. C. Lincoln attended the annual meeting of the Inland Bird Banding Association, held in conjunction with the Wilson Ornithological Club, at Kansas City, Mo., December 28 to 30, 1925. He contributed a paper entitled "Bird Banding: In Progress and Prospect," and on the evening of December 30, in one of the Kansas City churches, made an address on "Solving of Ornithological Problems by Means of Numbered Bands."

From Kansas City Mr. Lincoln went to Crane Lake, near Bath, Ill., where, with the cooperation of W. R. James, of Chicago, on whose private shooting preserve the work was carried on, and of W. S. McCrea, 971 ducks, mostly mallards, but including some black ducks and pintails, were banded during eight days' trapping operations. The greatest number banded in a single day was 414, a record-making catch. Mr. Lincoln reports the ducks very numerous on Crane Lake and estimates that on January 1 about 118,000 ducks, mostly mallards, were there.

On his return trip to Washington, Mr. Lincoln stopped at Kansas, Ill., to confer with W. B. Taber in regard to the proposed banding of crows in large numbers to determine whether the birds which make up the winter roosts are those responsible for the damage to crops during late summer and early fall in southern Illinois and Indiana.

Vernon Bailey is conducting investigations in the muskrat marshes of Louisiana and eastern Texas in cooperation with the Louisiana Conservation Commission. He reports that the operators are inclined to preserve the muskrats during the present season to allow them to increase. He has sent in a few specimens of birds and mammals which are particularly desired for the Bureau's collection.

Dr. W. P. Taylor, stationed at Tucson, Ariz., spent part of December on annual leave visiting relatives in Pasadena, Calif.

In connection with beaver investigations in Oregon, Theo. H. Scheffer reports that during the season of 1923-24, as many as 11,890 beavers were trapped, while during the season 1924-25, the number was only 3,669.

O. J. Murie spoke before the Biological Society of Washington on the evening of January 16 on the subject, "On the Trail of the Big Brown Bear in Alaska," his talk being illustrated with lantern slides.

Dr. Harry C. Oberholser returned on January 23 from Chicago, Ill., where, on January 21, he gave an address at the annual dinner of the Hamilton Club and a subsidiary organization, the Michigan Northwoods Club, on the "Practical Side of Wild-Life Conservation."

Arthur L. O'Leary has been temporarily appointed, effective January 2, to assist A. H. Howell with the Biological Survey mammal collection at the National Museum.

ALASKA INVESTIGATIONS

L. J. Palmer, assistant in charge of reindeer-grazing investigations, located at Fairbanks, reports that an exclusively reindeer meat market has been opened at Seattle, Wash. The market is already doing a good business, with prices of the meat listed the same as beef. Carcasses of reindeer for shipment to the States are kept in cold storage in Alaska until September and brought by boats to Seattle as long as navigation remains open - not later than October. Reindeer meat will probably soon be on sale in many of the large cities of the country.

ECONOMIC INVESTIGATIONS

George M. Trickel, assistant leader of predatory-animal control in Colorado, attended a meeting of the Lone Cone Wool Growers Association at Norwood, Colo., in December and reports a cooperative scheme of coyote control in effect on the upper end of the Montezuma National Forest. A direct assessment of 2 cents a head on sheep was levied by the members of this association, the funds to be used in cooperation with the Biological Survey. This cooperation will help to close a gap between the Uncompahgre and Rio Grande National Forests where cooperative procedure with stock permittees is under way.

Reports were received during December through the acting supervisor of the San Juan National Forest, at Durango, Colo., that gray wolves were killing cattle in the Chromo district. These wolves are believed to be a part of a pack which drifted into Colorado from Rio Arriba County, N. Mex., where Hunter O. E. Royal, of the New Mexico district did some effective wolf-eradication work. This hunter will be detailed to the Chromo district, and the work will be done cooperatively between New Mexico and Colorado.

A predatory-animal exhibit was shown at the National Western Stock Show at Denver, Colo., January 16 to 23. J. W. Crook, senior administrative assistant in the Colorado district, was detailed to Denver for the week to help in the arrangement of this exhibit.

Ira Whalen, a hunter in Stanley County, S. Dak., reports seeing a band of six antelope while working on his lines. The occurrence of antelope in this locality is unusual.

During December 32 hunters and field men in Utah reported putting out approximately 105,000 poison baits for coyotes in the establishment of stations.

George W. Boyd, junior biologist in Wyoming, has been supervising a fine piece of work in magpie control in Sheridan County during the past month in cooperation with the county agent and the Sheridan Rod and Gun Club. Magpies have become over-abundant and destructive to livestock, poultry, and game birds, and magpie poison has been distributed over practically the entire county with very satisfactory results. The bait, prepared of ground-beef suet and processed strychnine, is being handled by country stores in six communities. Mr. Boyd arranged a sample "magpie stick" with directions for use and exhibited it at each store distributing the bait, giving each purchaser a concrete idea of how to obtain the best kills. Big Horn County was active in magpie-poisoning work during December, and Park, Fremont, and Washakie Counties also are considering work along this line. Such a campaign meets with the unanimous approval of poultry raisers along streams where the magpies nest, and of sportsmen who are interested in the increase of game birds. By poisoning in the winter, very few birds other than magpies are killed.

I. N. Gabrielson, leader of rodent-control work in Oregon, made a trip to Astoria, Oreg., in the latter part of December to remedy conditions at the Clatskanie State fish hatchery, which was badly infested with rats. The rodents are accustomed to feed on the food stored and that thrown on the water for the fishes. He gave directions for cleaning up the grounds and demonstrated how to pile or store the different materials so that they would not provide shelter for the rats. The rats live about the ponds and are very proficient swimmers and divers. One was seen to dive off the bank and swim under water entirely across the pond. Persons at the hatchery say that the rats regularly catch the young fishes under water. Mr. Gabrielson did not observe this but did see many young half-eaten salmon lying up on the bank.

Cooperative work was undertaken on December 14 in controlling rabbits doing damage in apricot orchards near Farmington, Utah, the call for assistance coming from the county agent of Davis County. The leader in charge investigated the damage in an orchard where rabbits had completely girdled 58 of an orchard of 248 apricot trees. The young alfalfa shoots in the field surrounding the orchard offered an abundance of green food for rabbits, as the winter thus far has been extremely mild. The orchard in question had been well cared for, the owner having whitewashed all the trees early in the season when the damage was first noticed, and cleaned up rubbish and weeds that had collected on ditch banks. The whitewash, however, did not discourage the rabbits. Since the trees were of the low-branching type, wrapping would not keep the jack rabbits from feeding on the limbs and doing possibly as much damage as they had previously done to the trunks. R. Scott Zimmerman, leader in rodent-control work, recommended re-whitewashing the orchard, adding a quantity of strychnine to the wash to poison the rabbits, as the orchard was well

fenced and there was no danger of poisoning livestock. It was noted that the rabbits preferred the bark of the apricot trees to that of the adjacent peach, cherry, pear, or apple.

Leo K. Couch, leader in rodent control in the State of Washington, has been receiving reports of the work done in some counties in the control of rats with calcium cyanide. At the Yakima city dump, where formerly there were thousands of these pests, they have been killed off until only a few can be seen. No further trouble has been reported from the poultry farms where Mr. Couch gave demonstrations.

Eight English-sparrow poisoning demonstrations were recently given in Yakima County, Wash. About 120 pounds of poisoned wheat were prepared for the campaign.

Galen C. Oderkirk, junior biologist, stationed at Lafayette, Ind., gave a radio talk from Station WLS, Chicago, on January 23, on "Permanent Rat Control."

Frank N. Jarvis, of the Washington office, recently made a notable record by capturing during one night 53 rats in a single cage-trap.

FOOD HABITS RESEARCH

The number of stomachs examined in the laboratory during the calendar year 1925 is smaller than that for any similar period during the past 15 years. This is due to the fact that most of those customarily engaged in stomach analysis were assigned to field work for extended periods. A total of 1,240 stomachs were examined, bringing the aggregate of examined stomachs to 93,576.

FUR RESOURCES

Mr. Ashbrook returned to Washington on January 19 after visiting Quebec, Canada, New York City, and the Experimental Fur Farm at Saratoga Springs, N. Y. At Quebec he examined approximately 200 silver-fox skins produced on one ranch, and numerous other raw furs which had been received by this fur company. While in New York he inspected 4,089 silver-fox pelts in the storage rooms of the New York Fur Auction Company. This is the largest shipment of silver-fox pelts ever offered for sale in any raw-fur market. The skins were produced by a Wisconsin organization which operates six ranches in the State and which has 1,855 pairs of silver foxes mated for the coming breeding season. The general quality of the pelts and their density and clearness in color were remarkable, considering the large offering.

At the Experimental Fur Farm Mr. Ashbrook reports that 27 fox pelts were taken, leaving 16 pairs of breeding animals. The land to be used for a new unit of fox pens was surveyed and is now being cleared of brush and trees so that a large fence inclosing one acre of land can be constructed next spring. Nine rabbit hutches have been completed and are ready to receive the rabbits donated to the farm to carry on breeding experiments. The construction of hutches will be continued until enough are built to accommodate 30 rabbits.

Dr. Karl B. Hanson visited a silver-black fox ranch, at Northampton, Mass., on December 31, to assist in combatting an outbreak of disease among the foxes. He spent two days on the ranch and reports that the symptoms of the disease were similar to dog distemper, more so in this case than at any other ranch where he had given assistance of this kind.

Bridgewater Arnold, representative of the National Association of the Fur Industry, assigned to this Bureau as cooperator, is spending some time in the New York office. He is assembling climatological and topographical data to determine what application these may have to the protection and propagation of fur-bearing animals.

D. Monroe Green returned to Washington on December 22, from California, where he spent some time investigating the rabbit industry, particularly in the Los Angeles district. He reports that raising domesticated rabbits for meat and fur is becoming a recognized industry in southern California. More than \$1,000,000 worth of dressed rabbit meat was marketed in Los Angeles in 1925 and several thousand dollars' worth of pelts. Many men and women are engaged in the work as a means of livelihood and are realizing satisfactory returns. Business men of the Chamber of Commerce, Rotary Club, and similar organizations are enthusiastic over the accomplishments and express faith in the future development of the industry.

Mr. Green also spent several days in New York City early in January, assisting in establishing a new organization for marketing rabbit fur, to be known as the Rabbit Breeders Exchange. The object of the organization is to provide a cooperative marketing center where rabbit breeders from all sections of the country may ship their rabbit skins and have them sorted, graded, and sold in large quantities.

The Office of Publications of the Department has advised the Bureau that among the "best sellers" in the Office of the Superintendent of Public Documents, Government Printing Office, during the past fiscal year, was Department Bulletin No. 1151, "Silver-fox Farming," 26,318 copies of which were sold in addition to the free distribution.

GAME AND BIRD RESERVATIONS

Mr. Goldman left on January 20 for Mexico City, where he is to meet officials of the Mexican department of game and, in cooperation with the Mexican Government, visit the principal wintering grounds for migratory waterfowl in Mexico to obtain information which may determine the advisability of negotiating a migratory-bird treaty with that Republic.

W. T. Cox, superintendent of the Upper Mississippi River Wild Life and Fish Refuge, and Rudolph Dieffenbach, land valuation engineer, both of the Winona, Minn., office, were in Washington several days this month for conferences regarding the acquisition of lands and general administrative features connected with the establishment of the Refuge. They returned to Winona on January 21.

Unusually mild weather for December prevailed at Lake Malheur Bird Refuge, Oreg., and vicinity late last month, and as a result ice disappeared from the lake and many birds returned to the Refuge. Warden George M. Benson states that an unusual number of birds for this period of the year were on the Refuge. By January 1, the lake was again freezing over but, because of the large number of birds still remaining there, the ice did not form in many places. Many swans were at the Refuge, and Warden Benson says that this is the latest date of which he has record that these birds have remained there. Hunters in this locality report the geese in fine condition.

It has been cold and dry for a long period at Big Lake Bird Refuge, Ark., and vicinity, with very little rain for two months. The water on the lake is just at the right stage for the mallards to feed, and there are thousands of ducks on the portion of the Refuge west of Gun Island.

The band of antelope remaining at the Niobrara Reservation, Nebr., appears to be in a lively and flourishing condition. Three of the animals, however, died recently, one being an antelope received in a crippled condition in September, 1924, and recently injured by being trampled by others of the band. The cause of the death of the other two has not been determined.

A buffalo bull was shipped from Wind Cave Game Preserve, S. Dak., on January 2, to W. C. Rochelle, Texarkana, Tex., where it arrived safely. Twenty-eight additional elk of those purchased by the Elk Breeding and Grazing Association, of Middleboro, Mass., have been shipped from this preserve.

A three-year-old buffalo bull was shipped on January 5 from the Bison Range, Mont., to Joplin, Mo., for the city park at that place.

IMPORTATIONS

Among the more interesting birds imported during the past 30 days were six argus pheasants and three king birds of paradise from Singapore, Straits Settlements, entered at San Francisco, Calif. During the month there were also imported, at New York, 2,520 Hungarian partridges from Bremen, Germany.

MIGRATORY-BIRD TREATY AND LACEY ACTS

Mr. Denmead made a trip to Back Bay, Va., about the middle of the month and spent several days investigating hunting conditions in that vicinity. He found that there were 61 batteries on Back Bay, with 8 in operation on January 11. Shooting on Back Bay during the present season has been rather unsatisfactory. The Bureau speedboat Canvasback, manned by Wardens Barnes and Capps, is still on duty in this section, and there have been very few violations of the Migratory-Bird Treaty Act this season.

During the latter part of January Mr. Denmead made an official trip to St. Louis, Mo., Chicago and other points in Illinois, and Cincinnati, Ohio.

Miss Mary O'Brien, a stenographer in this Division, returned to duty January 18 after an absence of about seven weeks due to a broken wrist.

An order was issued by the Acting Secretary, on December 23, permitting the State fish and game warden and certain specifically named deputy game wardens of Kansas to kill, by shooting, grebes, bitterns, great blue herons, little blue herons, green herons, and black-crowned night herons in that State at any time for the purpose of protecting the fishes in the rivers and streams.

Senator Brookhart and Representative Anthony have introduced companion bills in the Senate and the House of Representatives providing for "more effectively meeting the obligations of the existing migratory-bird treaty with Great Britain by the establishment of migratory-bird refuges to furnish in perpetuity homes for migratory birds, the provision of funds for establishing such areas, and the furnishing of adequate protection of migratory birds, for the establishment of public shooting grounds to preserve the American system of free shooting, and for other purposes," the bill to be known by the short title, "Migratory Bird Refuge and Marsh Land Conservation Act." These bills embody the essential provisions, with a few slight changes, contained in the migratory-bird refuge bill which passed the House at the last session of the 68th Congress but failed to be brought up for action in the Senate.

Warden W. L. Birsch in a report for the week December 13 to 19 states that there are more canvasback ducks on Pamlico Sound, N. C., and tributaries than have ever before been known to the people of that region, and that fully 75 per cent of the birds are females.

Practically all of the swan population of eastern North America concentrates for winter quarters on Chesapeake Bay, Md., Back Bay, Va., Currituck Sound, N. C., and adjacent waters. Here they can be counted with reasonable accuracy, and early in December employees of the Bureau

experienced in counting birds, Talbott Denmead, C. C. Sperry, and W. L. Birsch, found a total of 14,567. The greatest numbers were on Chesapeake Bay, including the Susquehanna Flats, where 6,920 were counted. On Currituck Sound, the number observed was 2,968, and on Lake Mattamuskeet, N. C., 2,494. A slightly smaller number, 2,016, was noted on Back Bay, and on the Potomac River near its junction with the Chesapeake there were 169. Undoubtedly in all cases more swans were present and escaped count, so that the total number probably exceeds 15,000.

This is the first fairly complete census of these birds the Bureau has been able to make, and little can be said with certainty as to their increase or decrease. There is no doubt, however, that the swans have become bolder in the presence of man, a natural result of the absolute protection given them during the past ten years. Under the provisions of the law the close season will continue until December, 1926, and thereafter until regulations allowing an open season are promulgated by the President.

The long close season on swans now in force was designed to perpetuate a superb species of wild life. Careful observations of these birds will continue to be made by representatives of the Bureau, and annual counts of their numbers are planned. On this study and these counts will be based any recommendations that may be made regarding a modification of the protected status of swans.

Sportsmen and others interested in the conservation of wild life have expressed alarm at the scarcity of wild ducks and geese during the recent fall and winter flight in a number of the western States, particularly in California. At the same time, reports to the Bureau during January show an unprecedented number of these birds remaining along the coast of southern Alaska and British Columbia, where the present winter has been without parallel in its warm summerlike weather. The conclusion naturally drawn is that the scarcity of birds in various parts of the West during the fall and winter of 1925 and 1926 does not necessarily mean an actual decrease in the total number of the existing wild fowl but that the mild fall and winter weather in southern Canada and along the northern border of the United States, together with deficient rainfall in the West, have caused erratic movements among these birds. An abundance of ducks and geese has been noticed as far north as the flats about the mouths of the Copper and Bering Rivers and also on the Stikine River flats, Alaska, a remarkable occurrence for this season of the year. With a return of normal winters, therefore, the usual abundance of wild fowl will probably again be noted in the West.

Cases Terminated — Reports Received during December

<u>Wardens</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Bloxsom	2	Maryland	Killing ducks from a motorboat	\$25 each
Britton	2	Louisiana	Hunting ducks after sunset	\$5 each
Hilliard, Pierce*	1	New Jersey	Killing a duck after sunset	\$500
Holmes, Varley*	1	Nebraska	Killing avocets	\$3
Kelsey	2	So. Dakota	Shooting at ducks after sunset	\$25 each
Magbee*	1	Georgia	Killing bobolinks in close season	\$1
Perry	1	Tennessee	Killing ducks in close season	\$20
Pacetti	1	Florida	Hunting ducks prior to half an hour before sunrise	\$5
Shaver	7	Minnesota	Hunting ducks after sunset	\$10 each
"	1	"	Killing a gull	\$10
Shaver, Hahn**	1	"	Killing ducks after sunset	\$10
Shaver, Kelsey	1	Missouri	Possessing ducks in close season	\$5
Shaver, Moore**	1	Minnesota	Possessing ducks in storage in close season	\$1
Shaver, Punshon**	1	Missouri	Possessing ducks in storage in close season	\$1
Shaver, Punshon, ** Ott**	1	"	Hunting ducks in close season	\$25
Smith	1	Georgia	Killing ducks in close season	\$5
"	1	"	Killing a ruby-crowned kinglet	25 cents
Thompson	1	California	Possessing ducks in close season	\$25
Tonkin	1	"	Possessing ducks in close season	\$50

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Hilliard, Pierce**	1	New Jersey	Killing a duck after sunset
Kelsey	1	South Dakota	Killing a swallow
Kelsey	9	" "	Hunting ducks after sunset
Linebaugh, Blackwell*	5	Illinois	Selling ducks
Perry	1	Tennessee	Killing ducks in close season
Scholler*	1	Illinois	Shooting at wood ducks
Schulze*	1	"	Killing a killdeer plover
Smith	1	Maine	Selling ducks
"	1	"	Possessing ducks in close season and selling same
Tonkin	2	California	Possessing ducks in close season
Visart	2	Arkansas	Hunting ducks from airplane
Visart, Thomason**	2	"	Illegal interstate shipment of ducks

* U. S. Deputy Game Warden

** Deputy State Game Warden

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UNITED STATES DEPARTMENT OF AGRICULTURE S. D.

Vol. 7

Washington, D. C., February 27, 1926

No. 2

GENERAL NOTES

The continued cooperation of field men and others in furnishing notes for THE SURVEY is much appreciated, and it is again urged that all suitable material be submitted regularly each month through the division heads concerned. Cooperation is solicited also in obtaining our share of material for the Radio Service recently inaugurated by the Department. More than 50 broadcasting stations throughout the United States are receiving this service direct from Washington. The chief program now in operation is that known as the "Fifty Farm Flashes," which consists of short questions and answers on timely agricultural subjects from 50 to 75 words in length, and includes not only those of general interest but also queries applicable to particular sections of the country, since in general an effort is made not to distribute information to sections where it does not apply. Any interesting current items of information actually sought by farmers will be welcome as "farm flashes," and these too should be submitted through the heads of the Bureau divisions. O. E. Steph, leader of rodent control in Montana, has already set a good example by furnishing, during the last week of February, 67 questions, as many as possible of which will be answered and included in the "Fifty Farm Flashes."

Doctor Nelson left on February 26 for a few weeks' inspection tour. He will visit several of the bird reservations of the Southern and Southeastern States; inspect Sapelo Island, Ga., in reference to tropical American game birds introduced there; and confer with H. L. Stoddard at Beachton, Ga., in connection with the quail investigations being conducted in that State and Florida.

Fifteen employees of the Federal Government stationed at Billings, Mont., met on January 27 and organized a Federal Business Association. United States Game Warden George E. Mushbach was elected president. The following branches of the Government were represented at the organization meeting: Post Office Department, Bureau of Internal Revenue, General Land Office, Bureau of Mines, Office of Indian Affairs, Reclamation Service, Forest Service, Bureau of Entomology, Bureau of Animal Industry, and Bureau of Biological Survey (by R. E. Bateman, leader of predatory-animal control for the State, and Warden Mushbach). Regular monthly meetings will be held and an endeavor made to interest and enroll all Federal employees in Billings and vicinity.

More sickness than usual has prevailed among the office force during the month, as many as sixteen having been on extended sick leave.

Manuscripts have been submitted for outside publication as follows:

Ashbrook, Frank G. "Fur Farming."

Cates, E. C. "The Story of a Pet Prairie Dog."

Cook, May Thacher. "How the Bird Census Solves Some Problems in Distribution."

- Day, Albert M. "Effect of Strychnine on Game Birds," and "A Disease of Rodents Transmissible to Man."
- Kellogg, Remington. "Kentriodon pernix, a Miocene Porpoise from Maryland."
- McAtee, W. L. "Birds That Have Named Themselves," and "Notes on Carolina Waterfowl."
- Murie, Olaus, J. "The Alaska Red Squirrel Providing for Winter."
- Oberholser, Harry C. "The Migration of North American Birds:XXX, Chuck-will's widow and Whip-poor-will," and "December and January Birds about Washington."
- Preble, Edward A. "Caribou in the Arctic," "The Meadow Bluet," "The Odorous Squash Bug," "Spittle Insects," "The Silent Cave Cricket," "The Blood-stained Cockatoo," "The Kiwi or Apteryx," and "Mouse Opossums."

Donald H. Stevenson

Donald Harley Stevenson, reservation warden of the Biological Survey, stationed at Unalaska, Alaska, died at the Burlington Hotel, Washington, D. C., on Saturday, February 20. Mr. Stevenson had been called to Washington early in the month for consultation in regard to his future work in Alaska. Soon after his arrival in the city he contracted pneumonia, from which he died after a very brief illness.

Mr. Stevenson's connection with the Biological Survey dates back ten years, when he first assisted in making scientific collections of birds and wild animals, and later was a hunter in the predatory-animal control work in the West. In 1918 he entered the military service, and was stationed at Camp Lewis, Washington State, during the World War. At the end of the war he was employed as a ranger in the Forest Service, but in 1920 was transferred to the Biological Survey and placed in charge of the great Aleutian Islands Bird Reservation.

The duties of a reservation warden in a remote northern region require endurance and resourcefulness, and Mr. Stevenson was well qualified for the position. During his stay in Alaska he made several trips under severe conditions, which to a man of less resistance would have been fatal. That he should have survived all the exposures and hardships of several years' labor in this dangerous region and then succumb within a few days to disease contracted in the comparatively mild climate of the East, is an example of the irony of fate. Through all kinds of weather he had patrolled the numerous islands which extend a thousand miles from the end of the Alaska Peninsula. Here he investigated conditions, generally, collected birds and mammals for scientific purposes, enforced game and fur laws and regulations, inspected fur farms within the reservation, regulated the issue of permits for farming and trapping fur-bearing animals, and made a number of valuable grazing charts of parts of the Aleutian Islands.

With few advantages of early schooling and almost entirely self educated, he was a careful reader of general literature and science and had a tenacious memory. Through unusual opportunities over a wide stretch of country he became a keen naturalist and a careful and accurate observer. Many of his notes and records have been used in reports upon the bird and animal life of the Glacier and Yellowstone Parks, and many valuable unpublished notes are still on file in the records of the Biological Survey.

When still a boy he was helping to support the family by trapping grizzly bears for their fur, spending weeks alone in a log cabin far from home and packing the bear skins on his back across a rugged range of mountains. Later he was sent alone to collect grizzly bears, mountain lions, and mountain sheep where the dangers and hardships would have deterred most men, and invariably he brought back the specimens and laughed at the dangers. One of the largest grizzly skulls in the National Museum collection from Wyoming bears his label and a little round hole between the eyes made by his 22 high-power rifle at a distance of 30 paces.

He had a pleasant personality and made friends among the people with whom he came in contact. This was exceedingly helpful to him in obtaining the friendly cooperation needed in carrying out the duties of his position. While quiet and unassuming, in camp and on the trail he was a delightful companion, always cheerful even under the most trying circumstances, with a fund of good stories, and blessed with a full appreciation and enjoyment of the beauties and interests of native wild life. Generosity was one of his charms and he gave freely to others all he knew and all he had.

Mr. Stevenson was born at Adair, Ill., on March 31, 1892, and later moved to Babb, Mont., with his parents and several brothers, all of whom survive him. He was unmarried. He was a member of the American Society of Mammalogists and the National Geographic Society. Interment took place at Arlington National Cemetery on Wednesday, February 24, with military honors. Besides a large representation from the Bureau, at the services at the grave, there were also present Hon. Dan Sutherland, Congressional delegate from Alaska, and Capt. James Hottell, of the U. S. Coast Guard, who became acquainted with Mr. Stevenson on several Alaskan cruises.

BIOLOGICAL INVESTIGATIONS

E. A. Goldman, in charge of Reservations, who is making biological investigations in Mexico on the wintering ground of ducks, arrived in Mexico City on January 26. In a letter dated February 9 he was still in that vicinity, where many thousands of ducks, mainly pintails, cinnamon, blue, and green-winged teals, and canvasbacks, could be seen on the marshes daily. He is making special efforts to obtain data regarding battery guns in that section, as these are reported to be in extensive use.

Dr. H. C. Oberholser made a trip on the Curlew from Washington to Quantico on February 9 for the purpose of making observations on the abundance of wintering wild fowl. It was estimated that nearly 25,000 ducks were observed, the scaups, black ducks, and canvasbacks being by far the most numerous species. Others which were observed in smaller numbers include American mergansers and mallards. Most of the birds were seen between Washington and Alexandria, Va., chiefly near Four Mile Run, near Alexandria, in Occoquan Bay, and between Craney Island and Indian Head. On February 18 he made another trip, this time going down as far as Widewater. On this date the ducks had increased, the numbers of the dominant species observed being approximately as follows: Canvasbacks, 43,000; black ducks, 9,000; American mergansers, 2,000; mallards, 480; gadwalls, more than 200; Canada geese, 168; and whistling swans, 170. The swans were present in a single flock near Widewater.

F. C. Lincoln spent a part of February 12 and 13 at Kingsville, Ontario, investigating a method of trapping crows which has been successfully carried on by Jack Miner. Mr. Miner has been led to take up this work because of his great interest in the conservation of small birds, of which he considers the crow a serious enemy. He claims that the crow has increased steadily during the past twenty years in his section, and that during the same period there has been a corresponding decrease in the small birds. His trap, consisting of a large wire pen, which can be sprung by the operator when a sufficient number of crows are in the trap, has resulted in the capture of about 2,000 crows in the past month or two.

Vernon Bailey returned on February 13 from a five weeks' trip over the coastal marshes of southern Louisiana, where the muskrat industry is being studied by the Biological Survey in cooperation with the State Conservation Department and the Association of Fur Industries of Louisiana. The present investigations were made during the trapping season, and trapping methods were especially under observation. Some method of capturing the animals alive for the study of breeding and food habits, as well as for restocking purposes, was necessary, and considerable time was spent by Mr. Bailey in devising a trap for this purpose. Many types of traps were tested and finally one made which captures the animals readily and without injury, and for the first time in this study of the muskrats a supply of live animals is being made available.

The supply of muskrats secured by trappers is somewhat less than last year, but the higher price of fur may more than compensate for this. In some cases the breeding stock has been too closely trapped, but in many of the larger areas under more careful supervision the trapping has been greatly reduced for the purpose of maintaining a satisfactory stock of breeding animals for future years. The industry promises to become of permanent and increasing value and has already taken its place among the leading industries of the State.

On February 23 Vernon Bailey gave a lecture before the Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y., on "Our Friends and Foes in the Mouse World." This lecture, of a semi-popular nature, was intended to show the economic importance of many species of small rodents, and to give the public a better understanding of wild life in our human economy.

Dr. W. P. Taylor on January 20 delivered a lecture entitled "Pine or Porcupine" before the Tucson Natural History Society, at Tucson, Ariz. This lecture was illustrated by lantern slides and specimens. He also presented a paper on the progress of the porcupine work at the symposium "The Future of the Natural Resources of the Southwest," at the meeting of the Southwestern Division of the American Association for the Advancement of Science, at Phoenix, Ariz., February 15 to 18. He has been elected secretary of the biology section of the division.

On January 21 Doctor Taylor made a trip to Roosevelt Lake, Ariz., to investigate the food habits of pelicans. A report that these birds had become a menace to the bass in the lake proved to be erroneous, no evidence being found that they have any ill effect on the numbers of these fish, although they were feeding upon carp and suckers.

T. H. Scheffer spent the last week of January in the Kennewick district of Washington State continuing studies of the Yakima and Townsend ground squirrels. He found small numbers of both species already out of hibernation. Attempts were made without success to locate a hibernating nest, to determine whether the animals spend the winter in the ordinary summer breeding nests.

ALASKA INVESTIGATIONS

W. F. Bancroft was in New York City, February 5 to 9, making investigations of alleged illegal shipments of skins of land fur-bearing animals from Alaska to dealers in that city.

ECONOMIC INVESTIGATIONS

Sympathy is extended to Stanley E. Piper, of this Bureau, leader of the extermination methods project, with headquarters at Denver, Colo., in the death of his brother, Dr. Charles V. Piper, well-known botanist of the Bureau of Plant Industry, which occurred in Washington, D. C., on February 11.

Dr. W. B. Bell, of the Washington office, and E. E. Horn, of the extermination methods project, who has been spending several weeks in Washington, made a trip to New York and Philadelphia, February 9 to 11, to confer with manufacturers of strychnine and other products used in connection with investigations and field operations for the control of injurious rodents. Information of value was obtained and arrangements made to procure a number of special products for tests in connection with the laboratory work that Mr. Horn has been doing in cooperation with the pharmacology laboratory of the Bureau of Chemistry.

The inspector commanding the Royal Canadian Mounted Police, Yukon Territory, reports in a letter to Ernest P. Walker, executive officer of the Alaska Game Commission, that wolves and coyotes have become menacingly numerous in the Yukon, and that poison permits have been issued to experienced trappers, but that because of the sparse population probably little good will result. He added that small bands of caribou are numerous in the Yukon heading south, but as usual at this time of year, they are very thin and are chased by wolves at all times. He also mentioned a report from an old trapper who saw several bands of caribou when crossing the Dawson-Glacier trail and found two bulls with locked horns. He manoeuvred around until he saw which prong was causing the lock and smashed off that prong with a bullet, thus setting the animals free.

Modoc County, Calif., has recently entered the cooperative predatory-animal eradication program, and the first work done in this section resulted in finding seven poisoned coyotes in close proximity to the stations by Assistant Inspector R. K. Stewart, who visited the poison line on January 23 with Hunter C. R. Estes. Because of the snow, these were the first poisoned animals found. As is often the case, some of the coyotes had been crippled, one female having lost both front feet and developed good pads on both stub legs. Another one had lost a front foot, probably in a trap. One male had

evidently been caught as a pup, when, after it had been earmarked and its tail cropped, it was turned loose.

Ralph Irion, a Montana hunter, who was requested to keep a lookout for wolves reported ranging on the Little Powder River, did good work during the month in getting, with the help of a rancher, four female wolves. A bounty had been offered for these animals, as they were reported to have killed more than \$2,000 worth of livestock during the past summer.

Sears M. Willis, a hunter in Utah, who was working during January in cooperation with the State fish and game department, has done commendable work in taking two mountain lions on Nebo Mountain. His dogs followed the trail all one day, and were successful in treeing the lions late the following evening. Hunter Willis did not catch up with the dogs till nearly nine o'clock when he succeeded in shooting an adult female lion. The other lion got away in the darkness, but after a day's rest the dogs picked up its trail and treed it in about an hour.

Dr. Glen R. Bach, leader in predatory-animal control in the State of Washington, reports a rabid coyote at Pasco, that bit a horse and tried to bite its rider, a small boy. The horse developed rabies within three weeks and died, and the coyote was killed, but it is not known whether it attacked any other coyotes or domestic animals. Doctor Bach has assigned Hunter William Dishon to watch this section. A rancher of Lamona County, Wash., also reported that on January 14 one of his dogs started acting queerly. The next day it bit his small daughter on the arm, but did not draw blood. The dog was killed and its head when examined at Seattle proved positive for rabies. The child is now taking the Pasteur treatment at Odessa. Several dogs are known to have been bitten. A number of these have been killed and others are tied up or muzzled. The suppression of rabies is an important part of the predatory-animal control work in many of the western States, and is conducted in cooperation with State and local health or sanitary officials.

D. A. Gilchrist, leader of rodent-control work in Arizona, was on the program of the Maricopa County Farm and Home week on January 20 and spoke at Phoenix, Ariz., on "How We Can Control the Pocket Gopher in this County. Mr. Gilchrist writes that the meeting was well attended and much interest shown in pocket-gopher control. Previously he had placed poison, a trap, and a pocket-gopher gun in a field across the road from the building where the meeting was held, and these were visited by those in attendance. By the use of a shovel a pocket gopher which had been poisoned was soon uncovered, as also were the remains of one pocket gopher which the gun had killed. Another pocket gopher had been caught in the trap.

Mr. Gilchrist also reports killing 218 cotton rats from one mile of ditch bank in Arizona.

Arizona started the year right by breaking all records for cooperation in rodent control for any one month. Citizens to the number of 522 cooperated during January in drives against the pocket gopher. One citrus

grower in Maricopa County, who lost 250 grapefruit and orange trees from pocket gophers seven years ago, states that the loss of the trees cut down his income by more than \$2,500 a year, but that since the cooperative rodent-control work was started he has not lost a tree and keeps his grove free from pocket gophers.

Jack rabbits are reported doing more than usual damage to wheatfields in western Kansas this winter. A large percentage of the wheat made only a small growth last fall, and being the only green feed available the young wheat plants attract rabbits. Investigations of wheatfields in Ness and Finney Counties show that it is difficult to find a square foot of ground on which there are no rabbit tracks or where the wheat has not been eaten to the ground. In some places patches were found where apparently more than half the wheat plants had been dug up by the roots. In spite of bounties in Kansas, it seems that jack rabbits are not being controlled by this method.

Series of rat and mole demonstrations were held in five towns in King County, Wash., during the month, in which the calcium-cyanide method of poisoning was shown as far as possible, while trapping and other poisoning methods were explained in cases where the use of the cyanide was not practicable. Demonstrations were held also at Chico and Paulsbo, in Kitsap County. Thirty-three rats were killed with calcium cyanide in 10 minutes in the dust boxes of a poultry house at Paulsbo. These were picked up and exhibited in a shop window at Port Orchard, along with the duster and some of the chemical.

A nurseryman near Olympia, Wash., reported the loss from pocket gophers of 20 choice rose bushes. Leo K. Couch, leader of rodent-control work in Washington, personally set some traps, and two days later four pocket gophers were trapped in the nursery. This adds one more plant to the food of the pocket gopher as observed in that State.

One farmer from the Snokomish Valley, Mason County, Wash., lost almost his entire potato crop the past fall from meadow mice. Mr. Couch looked over his place and found the ground honeycombed with mole burrows, with plenty of evidence that meadow mice were there in great numbers. The farm is being treated with poisoned grain, and many traps have been set.

George W. Boyd, junior biologist, assisted the county agent of Fremont County, Wyo., during the latter part of January in starting magpie control by giving 14 poisoning demonstrations along the north fork of the Wind River, covering a strip of country 16 miles long. At each ranch one or more "magpie sticks" were prepared and placed in trees or on posts where the birds were in the habit of congregating. A large number of turkeys are raised in this section of the State, and nearly every farmer seen during the demonstrations stated that he had lost a great many turkey eggs and young turkeys from the magpies. The county agent estimated that about two carloads, or about \$18,000 worth, of turkeys had been lost by magpie depredations last year in Fremont County alone.

FOOD HABITS RESEARCH

E. R. Kalmbach addressed the Biological Society of Washington on the evening of February 13 on "Black Birds Versus Rice in Louisiana," his talk being illustrated with lantern slides and specimens.

A revised edition of Farmers' Bulletin No. 1456, "Homes for Birds" was received on February 25, and copies may be obtained on application. The revision contains a short reference to the house wren as an enemy of nesting birds.

FUR RESOURCES

D. Monroe Green spent several days in New York during the latter part of February inspecting rabbit pelts in storage handled by raw-fur buyers. He also assisted in assorting and grading rabbit skins shipped from California to the newly established Rabbit Breeders Exchange. The shipments comprised white, blue, fawn, and mixed-colored skins, totaling 10,000. They arrived in good condition but many were small and unprime. The average price paid for a skin was 13½ cents. The manager of the Rabbit Breeders Exchange, with which the Bureau is cooperating, informed Mr. Green that many rabbit breeders intend to market their skins through the Exchange and that large quantities are expected in the future.

Many replies to the questionnaire sent to rabbit breeders, for names, addresses, and number and kinds of rabbits kept, are being received. As a result of the publicity given it by the Press Service of the Department, numerous letters have been received from individual breeders asking that their names be included in the list when published. Approximately 3,000 names have been compiled to date.

GAME AND BIRD RESERVATIONS

Lisle Morrison, who was transferred from Economic Investigations in September to assist Mr. Goldman, is acting in charge of the division during Mr. Goldman's absence in Mexico.

About 400 quail are being fed at the Niobrara Reservation, Nebr., this winter. On a pond not more than half an acre in extent, near the chief spring supply at this reservation, there are about 1,600 wild ducks wintering, mostly mallards and red-heads, with a few pintails and one coot. These ducks are fed corn on alternate days but do not become tame.

There are now only six antelope at Niobrara Reservation, one more having died recently from injuries received in a fight with another member of the band. At the Bison Range, Mont., two died last month, and two this month, from unknown causes, leaving only four in the band at that place.

Warden Frank H. Rose, of the Bison Range, Mont., and his assistants, on February 3, finished corralling 400 elk which have been sold to the Elk Breeding and Grazing Association of Middleboro, Mass. The horns of the bull eld were sawed off, and 388 animals - 73 calves and 315 adults - were loaded on 10 large baggage cars, which were steam heated and electric lighted. The

train was rushed through on passenger schedule, and the elk have now arrived at their new range in Massachusetts. This is said to be the largest single shipment of wild animals on record, and the loss was only about 3 per cent.

Two buffalo have been shipped from Wind Cave Game Preserve, S. Dak., to Texarkana, Tex., and two to North Platte, Nebr. The latter are to be placed on the experimental farm of the University of Nebraska.

Warden Wesley D. Parker, of Sullys Hill Game Preserve, N. Dak., has shipped three elk to the president of the local chapter of the Izaak Walton League of America, at Naperville, Ill., for release on a forest preserve which has been inclosed by a suitable fence. Mr. Parker also shipped one elk to the Sand Springs Amusement Company, Sand Springs, Okla.; one to Monroe, La., for the city park; and three to a private estate at Beverly, Mass. Last spring a buffalo cow from the Bison Range was shipped to the same estate, and also some young mule deer from the Kaibab National Forest, Ariz., by the Forest Service. The deer make very fine pets, and hundreds of persons come to the estate at Beverly each week to see the animals. Boy scouts have permanent headquarters on the estate and frequently as many as 250 are camped there at one time. The newspapers and public generally are showing much interest in the growth of this private game preserve.

The number of elk on the Elk Refuge and adjoining ranches in Wyoming on February 1 was about the same as at the end of December, or approximately 4,500. Most of these were in good condition, and the warden has found only three dead since the animals came to the Refuge in the autumn. The local State game warden reports that most of the elk herd is wintering near the Gros Ventre River and its tributaries, where the snow is not deep. Feeding the elk had not started at the Refuge up to February 13. Only two snowstorms occurred during January and only about 5 inches of snow fell. The lowest temperature for the month was 18 degrees below zero. Warden Almer P. Nelson stated that there was sufficient forage on the pasturelands to supply the elk until there was a deeper snowfall.

Warden George M. Benson, of Lake Malheur Bird Reservation, Oreg., reports that there are still many geese on the Refuge, a few swans, and a number of ducks.

United States Game Earden B. J. Pacetti visited the new Brevard Bird Reservation, in Mosquito Lagoon, Fla., early in January, and reports great devastation there by the hurricane of December 1, 1925. He estimated that approximately 1,500 birds had been killed and says that the island was covered with eggs that had drifted about after the nests were blown down. The water had been at least $3\frac{1}{2}$ feet deep on parts of the island, and all the nests that had been on the ground or on low bushes were washed away. Many trees on the windward side were blown out. The old birds, however, had rebuilt their nests, and at the time of Mr. Pacetti's visit there were probably 1,000 young birds there, some large enough to fly and others just hatched.

Stanley B. Hall, assistant attorney in the Office of the Secretary of Agriculture, has been transferred to the position of attorney in the Winona, Minn., office of this Bureau, to supervise the preparation of abstracts of titles, deeds, and other necessary papers in connection with acquiring lands for the establishment of the Upper Mississippi River Wild Life and Fish Refuge.

W. E. Hubbard, of Dungeness, Wash., has been appointed warden of the Dungeness Spit Bird Refuge, from January 16 to March 31, inclusive, in order to give necessary protection to the birds during that period.

IMPORTATIONS

The importation of quail from Mexico began about February 10, and up to February 20 permits had been issued for the entry of 21,250 birds, 11,250 at the port of Brownsville, Tex., and 10,000 at Eagle Pass, Tex. The Mexican authorities have granted authorizations to four importers for the export of 80,000 quail through the ports of Brownsville, Eagle Pass, and Laredo, Tex.

Among the rarer birds imported during the month were 13 pigeons, including 2 Gallicolumba stairi and 2 Globicera pacifica from the Fiji Islands.

MIGRATORY-BIRD TREATY AND LACEY ACTS

Mr. Denmead visited St. Louis, Mo., and points in Illinois and Ohio during January and held conferences with United States game wardens and other officials relative to the enforcement of the Migratory-Bird Treaty Act in the mid-western States during the coming spring flight. While in Chicago he attended by invitation a meeting of the Board of Governors of the Chicago Chapter of the Izaak Walton League of America, and conferred with sportsmen, conservationists, and others relative to migratory-bird conditions. Because of the severe cold weather at the time he was on the Illinois River, the usual abundance of ducks was not present, but wherever there was sufficient water large flocks of mallards were observed.

Reports from Federal game wardens on the Potomac River indicate that mallards were pairing off along the river and its tributaries as early as January 27 this year.

Federal Warden B. E. Smith reported, on January 12, that there were thousands of eider ducks in Maine. Mr. Smith stated that there was a very heavy flight this year and apparently a marked increase in the species.

Mrs. Burnetta E. Muth was temporarily appointed as dictating-machine transcriber in this division effective February 15.

The proprietor of a restaurant in Galveston, Tex., was arraigned in the Federal court for the southern district of Texas on January 14, 1926, charged with selling wild ducks in his place of business in December, 1925, in violation of the Migratory-Bird Treaty Act Regulations. The accused entered a plea of guilty and a fine of \$100 was assessed by Judge Hutcheson, who admonished the offender for violating the Federal game law and indicated that more severe penalties would be imposed in the future if

infractions of this character continued within his district. The evidence in the case was obtained by Federal Game Wardens Riddick and Hamps.

A hearing by the Committee on Agriculture of the House of Representatives on the Migratory-Bird Refuge and Marsh Land Bill (H.R. 7479) on February 15 was attended by conservationists and sportsmen from various parts of the country. The bill was favorably reported by the Committee on February 24. Under the terms of this bill persons hunting migratory birds will be required to take out Federal hunting licenses at a cost of \$1 per annum, the revenue to be appropriated by Congress from time to time for (1) the purchase or rental of areas for use as migratory-bird refuges or public shooting grounds and the for administration, maintenance, and development of such refuges and grounds; and (2) for the enforcement of the Migratory-Bird Refuge and Marsh Land Conservation Act and the Migratory-Bird Treaty and Lacey Acts, including investigations for reducing the losses of migratory birds from alkali poisoning, oil pollution, and other causes. The bill has the approval of the Department of Agriculture, and no witnesses appeared in opposition to it. Witnesses appearing for the bill included the following: Dr. T. Gilbert Pearson, president of the National Association of Audubon Societies, New York City; John B. Burnham, president of the American Game Protective Association, New York City; William C. Adams, director of the Massachusetts Division of Fisheries and Game; David H. Madsen, State Fish and Game Commissioner of Utah; Carlos Avery, vice president of the American Game Protective Association; George Bird Grinnell, president of the Boone and Crockett Club and also representing the New York State Game and Forest League; Marshall McLean, of New York City, representing the Camp Fire Club of America; Ray Holland, editor of Field and Stream; Dr. William H. Moore, representing the Pennsylvania Chapter of the Izaak Walton League of America and also representing George J. Selover, a member of the committee of five sponsoring the bill and appointed by the Executive Committee of the Izaak Walton League of America; and Judge Lee Miles, chairman of the Arkansas Game and Fish Commission, Little Rock. Talbott Denmead, acting chief United States game warden, appeared before the committee as a representative of the Department. A companion bill to H.R. 7479 (Migratory Bird Refuge and Marsh Land Conservation Bill) introduced by Senator Brookhart, (S.2607) was favorably reported by the Senate Committee on Agriculture and Forestry under date of February 17.

Cases Terminated - - Reports Received during January

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Britton	4	New Mexico	Hunting ducks in close season	\$25 each
Hampe*, Riddick	1	Texas	Selling ducks	\$100
Pacetti, McCarley*	1	Florida	Killing ducks after sunset	\$10
" "	2	"	Killing ducks after sunset	\$15 each
Perry	1	Mississippi	Possessing wood ducks; offering to sell ducks	\$50
"	1	"	Possessing wood ducks and hunting ducks after sunset	\$50
Perry, Dickerson**	1	Tennessee	Possessing ducks in storage in close season	\$1 and costs of \$28.34
" "	2	"	Shooting nighthawks	\$10 each
" "	1	"	Killing doves in close season	\$20
" "	1	"	Killing wood ducks	\$20
Steele	2	Iowa	Possessing wood ducks	\$5 each and costs of \$20. each
"	1	"	Hunting ducks after sunset	\$5 and costs of \$26.90
Whitehead	4	Georgia	Killing doves in close season	\$15 each

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barnes*, Capps*	2	Virginia	Killing grebes
Barmeier	5	Missouri	Hunting ducks after sunset
Bloxson	1	Maryland	Hunting ducks after sunset
Bloxson, Watson**	3	"	Hunting ducks after sunset
" "	2	"	Shooting at swans and hunting ducks after sunset
Britton	4	New Mexico	Hunting ducks during close season
Creighton*, Pingley	1	Virginia	Hunting ducks from a motorboat
Farnham, Schrader**, and Merrifield**	2	New York	Hunting ducks after sunset
Fleming*, Randall**	1	Indiana	Killing a grebe
Forbes	1	No. Carolina	Possessing swans
Hampe*	2	Texas	Killing killdeer and robins
"	1	"	Possessing robins
"	1	"	Possessing killdeer
"	1	"	Possessing robins and selling ducks
Hampe*, Riddick	1	"	Selling ducks

Jankowski*	1	Illinois	Killing a bittern
Jones*	1	Virginia	Killing a woodpecker
Kelsey	5	South Dakota	Hunting ducks after sunset
Langdon**, McGill**	3	Pennsylvania	Possessing wood ducks
Mestel*	2	Illinois	Hunting ducks after sunset
Mrovka*	6	"	Hunting ducks after sunset
Pacetti, McCarley*	3	Florida	Killing ducks after sunset
" "	6	"	Hunting ducks after sunset
Perry	1	Mississippi	Killing ducks from a motorboat
Pingley, Creighton*	3	Maryland	Hunting ducks after sunset
Ransom	1	Montana	Possessing a swan
Schulze*	1	Illinois	Possessing a killdeer and a grebe
Shaver	1	Minnesota	Killing a meadowlark
Shaver, Davidson**	1	"	Hunting ducks after sunset
Shaver, Gervais**	1	"	Possessing wood ducks
" "	1	"	Hunting ducks after sunset
Shaver, Martin**	3	"	Hunting ducks after sunset
Shaver, Stukle**	2	"	Hunting ducks after sunset
Steele	2	Iowa	Hunting coots after sunset
"	1	"	Hunting ducks after sunset
Steele, Hough**	2	"	Hunting ducks after sunset
Stevens*, Bloxsom	1	Virginia	Selling ducks
Stukel**, Hall**	2	Minnesota	Hunting ducks after sunset
Tonkin	1	California	Possessing a wood duck
"	1	"	Possessing killdeer
"	1	"	Possessing ducks in close season

* U. S. Deputy Game Warden

** Deputy State Game Warden

THE SURVEY

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GENERAL NOTES

Doctor Nelson, who is still on his tour in the South, was one of the leaders of a discussion on "Bird Study in the Schools" at a meeting of Florida teachers held in connection with the 26th annual convention of the Florida Audubon Society at Rollins College, Winter Park, Fla., March 5 and 6.

Dr. A. K. Fisher's 70th birthday, Sunday, March 21, was celebrated by a gathering on the afternoon of that day at Plummerville Island, Md., the home of the Washington Biologists' Field Club. Twenty-four persons were present, including a number from the Biological Survey, the National Museum, and other scientific branches of the Government, chiefly members of the Washington Biologists' Field Club and the Biological Society of Washington. Out-of-town guests were Dr. Witmer Stone and Fletcher Street, both of Philadelphia, and Dr. George Bird Grinnell, of New York City. Copies of a bibliography of Doctor Fisher's published papers, comprised of 150 titles and prepared by Dr. T. S. Palmer and W. L. McAtee and printed for the occasion in the Proceedings of the Biological Society of Washington, were distributed and congratulatory addresses made. In further commemoration of the day an informal reception was given Doctor Fisher at the Cosmos Club in the evening. It is of interest to note that among those present at the reception were all the original members of the Biological Survey at the time of its organization in 1885.

The occasion at Plummerville Island was made a joint celebration of the birthdays of Doctor Fisher and of Henry W. Henshaw, chief of the Biological Survey from 1910 to 1916. Mr. Henshaw's 76th birthday occurred on March 3, and at the celebration a list of his published papers, compiled by Dr. H. C. Oberholser, was read.

Wm. H. Cheesman, editor of the Biological Survey, lectured before the class in Bulletin Writing in the Graduate School of the Department of Agriculture on March 23 on "Standards of Grammatical Technique." This was one of a series of lectures being given by editors of the Department in a course on the technique and fundamentals of writing.

Sympathy is extended to Dr. Alexander Wetmore, assistant secretary of the Smithsonian Institution, by his former associates in this Bureau in the death of his father, which occurred at his home in Tacoma Park, Md., on March 15.

The following publications of the Bureau were issued in March:

- "Bats in Relation to the Production of Guano and the Destruction of Insects," by Edward W. Nelson. Department Bulletin No. 1395. Issued March 24.
- "Our Migratory Wild Fowl and Present Conditions Affecting Their Abundance," by Edward W. Nelson. Special Multigraphed Report, BSR-1. Issued March 26.

Manuscripts have been submitted for outside publication as follows:

Ashbrook, Frank G. "Annual Catch of Raccoon Skins Decreasing."
Couch, Leo K. "List of Small Mammals from the Lower Puget Sound Region."
Jackson, Hartley H. T. "Catching Bats with Gill-nets."
Lincoln, Frederick C. "The Migration of the Cackling Goose."
McAtee, W. L. "Bird Distributors of Mistletoe in Europe" and "Birds of the
Golf Course: The Killdeer."
Oderkirk, Galen C. "Cassing Groundhogs Is Successful."
Silver, James. "Rat Control and the Woman in the Home."
Taylor, Walter P. "The Mouse That Has Apartments in the Trees."

BIOLOGICAL INVESTIGATIONS

A. H. Howell left Washington on March 23 to continue the field investigations begun by him in Florida eight years ago. His first work will be in the vicinity of Cape Sable in cooperation with John B. Semple, of Coconut Grove, Fla., where he will make an examination of the extensive rookeries of herons, ibises, and roseate spoonbills, and make studies of the rails, Florida ducks, and other birds in that region, including the rare Cape Sable seaside sparrow, discovered by him in 1918. The major portion of the trip will consist of an exploration of the Gulf coast region from Pensacola eastward to Cedar Keys, and will be made in a launch, permitting a detailed examination of the various islands, bays, and rivers of that coast, including several islands that are being abandoned by the War and Navy Departments and may prove available for bird reservations. Wallace B. Grange, of Wisconsin, who has received a temporary appointment as a field assistant, will accompany Mr. Howell.

Letters received from E. A. Goldman, who is investigating the condition of migratory wild fowl in central and northern Mexico, report that white-fronted and snow geese, with several species of ducks, have been wintering there in considerable numbers, but that many of them have already left on their way north. Changed conditions there, as elsewhere, have their influence on the abundance of game birds, though it is still a wonderful country for game of certain kinds. He finds it interesting to compare conditions existing there on his visit about 30 years ago with those at the present day.

Since the last issue of THE SURVEY Dr. H. C. Oberholser has made six trips down the Potomac to observe the wintering wild fowl. Considerable fluctuation in the numbers of birds was noted, the greatest number being seen on March 17, when it was estimated that nearly 138,000 ducks of 12 species were on the river between Washington and Widewater, Va., mostly greater and lesser scaups, canvasbacks, and black ducks. Some whistling swans, Canada geese, and ruddy ducks also were seen. On February 26, chiefly on account of high winds, it was estimated that there were only about 30,000 ducks, mostly canvasbacks, but on March 8 the ducks were more abundant, more than 95,000 being seen. Doctor Oberholser reports that on the trip made on March 19, between Washington and Craney Island, nine species of ducks were seen, totaling about 113,000 birds, of which approximately 40,000

were observed between Washington and Alexandria. Subsequently the canvastack and black ducks began to decrease, so that on the last trip, on March 30, the total number seen was about 60,000, chiefly greater scaups.

Theo. H. Scheffer, stationed at Fuyallup, Wash., has been working during the month on a new project -- a study of the relations of moles to the small rodents that habitually frequent their runways and the relation of the latter to the growing of root crops and bulbs.

Dr. W. P. Taylor, stationed at Tucson, Ariz., has submitted a memorandum covering the work of the Biological Survey, existing and prospective, in the southwestern United States. The resources of the three extreme southwestern States, with special emphasis on the wild life, are summarized and indications given of lines of study of their interrelationships that should be carried on. He points out the need of careful planning in the conduct of these studies, with full realization of the fact that some are short-time and some long-time projects.

A patent (No. 1576707) has been granted on a beaver trap invented by Vernon Bailey for capturing beavers alive for propagation. The patent dedicates this new and useful improvement in animal traps to the use of the people of the United States and allows its manufacture by anyone for private or commercial purposes.

ALASKA INVESTIGATIONS

The second annual meeting of the Alaska Game Commission was held at Juneau from February 3 to February 24 with all five members present. Necessary action was taken in certain administrative matters and estimates prepared of funds for the fiscal year 1928. The Commission has also prepared a summary of reports received at the Juneau office of cases arising under the Alaska game law from August 10, 1925, to January 31, 1926. The report shows a total of 34 cases, in which there were 37 defendants. Pleas of guilty or convictions were obtained in 31 of the 34 cases. One of the cases on which the jury disagreed has since been re-tried and a conviction made. The fines total more than \$1,480, of which \$1,380 was to be paid or served out and \$103.60 was suspended. Imprisonments total 750 days, of which 350 days is to be served and 390 days was suspended. The costs total more than \$170. The forfeitures include numerous fur-bearing animal pelts, game animals, game birds, trophies, shotguns, rifles, and revolvers.

Mr. Bancroft returned to the office on March 27, after undergoing several weeks' treatment at the Walter Reed Hospital.

Ernest P. Walker, executive officer and fiscal agent of the Alaska Game Commission, arrived in Washington from Juneau, Alaska, on March 9, bringing with him the recommendations of the Commission for changes in the Alaska game law and estimates of funds for 1928. During his stay in Washington various administrative and fiscal problems are being taken up and

certain printing in connection with the enforcement of the Alaska game law is being arranged for. On the evening of March 27 Mr. Walker spoke before the Biological Society of Washington on "The Wild Life of Alaska and Its Preservation," his talk being illustrated with lantern slides.

The construction of the new 68-foot vessel being built for the Alaska Game Commission at Seattle, Wash., is progressing. The hull is of the North Pacific halibut model and will be equipped with a 135-horse-power Diesel engine. The boat was launched on March 24, and it is expected that it will be ready to leave Seattle for Alaska about June 1.

ECONOMIC INVESTIGATIONS

John W. Crook, assistant in predatory-animal control in Colorado, spent much time during February in lion work and covered all the locality surrounding the San Luis Valley. In practically all the old lion haunts he noted that deer were well bunched in their winter quarters, with considerable increase in their numbers over past years. On the Sangre de Christo range near Sand and Bear Creeks he reported mountain sheep ranging extremely low and in almost double the numbers noted three years ago.

An outstanding cooperative feature in Colorado during February was the formation of the Eastern Slope Wool Growers' Association, a new organization of sheep permittees who summer-range on the Colorado National Forest. This organization passed a resolution on February 27 commending the work of the Biological Survey, and for maintaining a hunter assessed permittees 25 cents a head on each animal grazed. This makes a total of nine national forests in Colorado where sheep permittees have adopted cooperative measures for combating predatory animals.

A stockman of Livermore, Colo., reported on February 24 that he had taken 17 coyotes and 1 bobcat as a result of predatory-animal poison received from our Denver laboratory, and of demonstrations of the methods in the manufacture of the various kinds of baits that Biological Survey hunters commonly use.

G.M. Trickel, assistant in predatory-animal control in Colorado, reports that while hunting mountain lions he found the remains of a 100-pound yearling deer killed by a bobcat. From indications in the snow the bobcat had caught the deer and floundered with it for about 50 feet before getting it down.

Ott Daniels, working in Nevada, devoted his time during the past winter to the eradication of bobcats that have been destructive to sheep in the Potts district. In January he took 26 bobcats and in February 22 and 1 large female lion.

In Grant County, Oreg., during February, Hunter Edgar Watkins spent some time running down cougars, which have been exceptionally active in killing mule deer in the Murderer Creek section. On February 23 he found the well-snowed-in tracks of three of these animals. He followed them all that day and part of the next until he found the big cats eating a freshly killed mule deer. After some fast work by the dogs and lions Watkins shot all three cougars, and thus ended the depredations on deer in that section.

Hunters' reports of the stomach contents of predatory animals caught during February in South Dakota showed that 14 coyotes and 3 wild dogs made their last meal on game birds or poultry. Deer killing by coyotes, reported from the northern part of the Roosevelt Game Preserve, ended after two wild dogs were taken in that locality.

George E. Holman, leader in predatory-animal control in Utah, received a telephone call on February 15 from the supervisor of the Manti Forest advising that fresh mountain-lion tracks had been seen in the foothills near Ephraim and asking that dogs be sent to get this animal. B.B. Turner, assistant in predatory-animal control, went with dogs and started hunting on the 17th. In the meantime 12 to 18 inches of snow fell, making the tracking very difficult, but the dogs worked out the trail and treed the lion in Manti Canyon on the morning of February 19. The animal was an adult male and made a fine specimen.

A spectacular start for this spring's rat-extermination campaign was made by the Johnson County Farm Bureau in Kansas during the last week of February for each township. The cyanide-dust method was demonstrated, and trapping and poisoning methods were described and recommended, giving farmers three principal methods of attack-- trapping, poisoning, and gassing. In one noteworthy case, after a load of corncocks stored in a granary bin had been pumped full of cyanide dust and the cobs shoveled over, 46 dead rats were found. Many more were undoubtedly gassed under the floor of the granary.

People in the vicinity of Arlee, Mont., are enthusiastic over a ground-squirrel campaign. "Gopher dances" are given, the money collected from them going into a fund to supply poisoned grain for vacant lands that can not be otherwise taken care of. Indications are that this poisoning campaign will be one of the best ever carried on in Montana.

On receiving a report from an automobile assembling company in Oregon that rats were doing damage to the fenders of new automobiles in stock, Ira N. Gabrielson, leader in rodent control in the State, investigated and found the place infested with black rats. The fenders damaged were covered with a heavy wrapping paper pasted to them, presumably with a starch paste, the edible qualities of which had been discovered by the rats. In gnawing it the rats had scarred the fenders so that they had to be re-enameled. Poison was placed and numbers of dead rats found.

R. Scott Zimmerman, leader in rodent control in Utah, visited Milford and Beaver Counties at the close of February to cooperate with the farmers and the county agent in that section in destroying ground squirrels, which were then appearing in many of the counties. In Beaver County the animals were out in full force, probably because of suspended operations against them last year.

James Silver and G. C. Oderkirk, of the eastern rodent district, on March 20 met a group of division engineers and superintendents of the Pennsylvania Railroad and officials of Purdue University to discuss rodent-control problems affecting railroads. Active cooperation by the railroad was promised in cleaning up groundhogs along its right-of-way, and plans for handling rat problems in a practical and systematic manner were fully discussed. It is expected that the active cooperation will stimulate groundhog clean-up campaigns in farming communities.

Mr. Silver, in company with the city commissioner of Detroit, Mich., and the sanitary engineer of that city made an inspection of conditions in Detroit favoring rat control, with a view to making recommendations regarding a proposed anti-rat ordinance.

Mr. Oderkirk had been engaged since the first of the year in rat-control demonstrations on farms in Indiana and Illinois. This work has proved popular in spite of adverse weather conditions during the winter.

FOOD HABITS RESEARCH

Mr. McAtee made an inspection of Currituck Sound, N. C., in January to learn something about the failure there of the food supply for wild fowl. Serious damage by salt water from the Chesapeake and Albemarle Canal was evident. On March 3 he attended a hearing at Munden, Va., at which residents of the region and others were given an opportunity to express their views as to the salt-water damage.

E. R. Kalmbach is now in Louisiana, where he plans by field work in March and April to round out the investigations he carried on for five months last year on the relation of blackbirds to the rice crop.

Mr. McAtee has begun a cooperative attempt to increase the bird population in a chestnut orchard maintained by the Bureau of Plant Industry at the experimental farm at Bell Station, Glenn Dale, Md. Nest boxes, bird baths, and other bird-attracting devices will be used to increase the natural enemies of nut weevils, which are jeopardizing the success of the attempts being made to produce strains of chestnut resistant to blight.

In order to obtain freer access to the northern part of the area covered by the cooperative quail investigation, Charles O. Handley has moved from Beachton, Grady County, Ga., to Thomasville, Ga., his mail address being 308 North Broad Street. H. L. Stoddard, in charge of the field work, remains at Beachton, Ga., the official headquarters of the investigation.

Remington Kellogg broadcast an address on "Toads" from Station WRC, Washington, D. C., on Saturday, April 3, under the auspices of the Smithsonian Institution.

FUR RESOURCES

Representatives of the American National Fox Breeders' Association visited the Bureau on March 4 and 5 to consider problems confronting fox breeders and to discuss methods of study of diseases of foxes.

Mr. Askbrook spent a few days during the week of March 21 in Atlantic City, N. J., on annual leave. He has recently been awarded one of the \$25 weekly prizes of the Fur Age Weekly contest for ideas helpful to the fur trade. His suggestion proposed the establishment of an institution for fur research.

Bridgewater Arnold, representative of the National Association of the Fur Industry cooperating with the Biological Survey, has returned to this office to resume duties in collecting and assembling statistics relating to the fur industry. He is at present preparing information to be published in the new monthly magazine which will start in April as the official organ of the Association.

Mrs. Grace Marshall was appointed typist in this Division on March 18.

GAME AND BIRD RESERVATIONS

Harold W. Hicks, of Montana, and Robert M. Rutherford, of California, have been appointed junior foresters, and Chalmer Jackson, of Colorado, transitman, in connection with the work of establishing the Upper Mississippi River Wild Life and Fish Refuge.

Mrs. Irene B. Kinney, of Montana, has been appointed stenographer at the National Bison Range, Mont.

It has not been necessary to feed hay to the elk coming to the Elk Refuge, Wyo., this winter, as the present season has been one of the mildest for many years in Jackson Valley. An abundance of forage was said to be in the swamp on the Refuge and on the surrounding foothills at the close of February. Killdeer, bluebirds, robins, and blackbirds appeared at the Refuge a month earlier than usual, and a flock of geese was reported near headquarters.

Unusually warm weather for the season has been reported at Belle Fourche Bird Refuge, S. Dak., and there have been only light snows in that vicinity. Mallards returned to the lake in great numbers early in February, and later in the month a large flock of Canada geese was seen there.

About 3,000 ducks and brant were reported at Dungeness Spit Bird Refuge, Wash., in February. Weather conditions were favorable for the birds.

Warden L. L. Bryan, of Big Lake Bird Refuge, Ark., states that the spring flight of ducks began there about March 8 and that great numbers were coming to the refuge to rest at night. Scaups, mallards, gadwalls, and pintails were there in abundance and were not being disturbed by trespassers.

A large bull elk was shipped recently from Wind Cave Game Preserve, S. Dak., to Prospect Park Zoo, Brooklyn, N. Y., and also one elk from Sullys Hill Game Preserve, N. Dak., to the city park at Minot, N. Dak. The number of antelope at the Bison Range has been further reduced by the death of another one of the band. The male antelope donated to Sullys Hill Game Preserve last year also died in February. The death of the albino elk at the Bison Range has also been reported.

The ice was kept open at places on Sweetwater Lake, Sullys Hill Game Preserve, during the winter by muskrats, which built three mounds of water plants on top of the ice.

By Executive order of March 11, President Coolidge enlarged the Strawberry Valley Bird Reservation, Utah. The original reservation had been covered with water by the increase of the flow-line, and for this reason it was necessary to enlarge the area in the refuge.

IMPORTATIONS

Shipments of quail from Mexico continued steadily during the month. Up to March 13, a total of 18,707 birds were entered at Brownsville, Tex., 10,000 at Eagle Pass, and 3,737 at Laredo. A shipment of 100 quail from Tia Juana, destined for Spesutie Island, Md., was entered at San Diego, Calif., on March 1.

Permits were issued for several shipments of Hungarian partridges from England and Germany at the port of New York during the month; the number of birds authorized to enter under these permits was 3,143.

MIGRATORY-BIRD TREATY AND LACEY ACTS

The Maryland State Game and Fish Protective Association held its annual midwinter banquet at the Hotel Emerson on the evening of February 23. A number of members of the Biological Survey attended, including W. C. Henderson, Talbott Denmead, W. R. Dillon, F. P. Callaghan, Frank G. Grimes, and T. T. Bloxson. Gov. Albert C. Ritchie spoke on conservation, with particular reference to fish in the Chesapeake Bay; Mr. Denmead, on "Just Fishing;" and Dr. Alexander Wetmore, of the Smithsonian Institution, on the wild life of the Hawaiian Islands.

March, 1926

Frank Grimes, of this Division, who has been ill for some time, was operated on at the Emergency Hospital, Washington, D. C., on Thursday, March 4, for mastoiditis. We are glad to say that he is making satisfactory recovery.

Federal game wardens operating in Illinois report that about 40,000 mallards passed one of the hunting clubs located on Clear Lake, Ill., in 15 minutes on the evening of February 19. All were headed north.

Federal Game Warden P. K. Hilliard reports that on March 8, on the marsh near Mill Creek, Manahawkin Bay, N. J., he and U. S. Deputy Game Warden Frank Pierce, of Salem, N. J., found a black-duck nest with one egg in it, which was frozen and cracked open. On March 10 these two wardens found three black-duck nests on the marshes near Cedar Run Creek, Tuckerton Bay, N. J., one of the nests containing one egg and the others two eggs each. These were still warm, as the ducks left the nests on the approach of the wardens. On March 11 they found two black-duck nests on the marshes of Sandy Island, Barnegat Bay, N. J., but were unable to tell how many eggs had been in these nests as they were partly torn to pieces and fresh eggshells were lying around. Warden Hilliard thinks that these latter nests had probably been robbed by crows or gulls.

Five cases obtained by Federal Game Warden Linebaugh and Deputy Game Warden Blackwell in Illinois during December, 1925, consisting of the sale of wild ducks, were successfully terminated in Federal court at Springfield, Ill., on February 19. The cases were disposed of by fines of \$25 each and costs, which in every instance exceeded the amount of the fine.

For selling two wild ducks on December 11, 1925, a violator was arraigned in the Federal court at New Orleans, La., on February 15, when he entered a plea of guilty and paid a fine of \$100. The evidence in this case was submitted by U. S. Deputy Game Warden Holland.

A fine of one cent was imposed in Texas for the illegal interstate shipment of ducks, the accused having been previously prosecuted and fined in the State court for hunting unlawfully and compelled to make two trips from Oklahoma to Texas. These facts were doubtless considered when the matter was brought up in the Federal court.

A compilation of the number of hunting licenses issued by the various States for the season 1924-25 shows that 4,862,889 were issued to residents, 41,316 to nonresidents, and 1,535 to aliens. The total money returns, which included the amounts received by the States for the sale of fishing licenses, were \$6,423,276.87. Pennsylvania led the States in the number of licenses issued—501,572 to residents and 2,558 to nonresidents. Ohio was second with 362,730 resident licenses and 66 nonresident. New York issued 317,384 resident and 3,152 nonresident licenses. The next three States in order were Michigan with more than 284,000; Illinois with approximately 266,500, and California with more than 225,000 hunting licenses.

E. V. Visart

It was with deep regret that the Bureau learned of the death of U. S. Game Warden Ernest V. Visart, of Little Rock, Ark., which occurred on Saturday, March 6, after a short illness of septicemia. Mr. Visart is survived by his widow and one daughter. He had been connected with the Bureau since 1913, first as an inspector under the migratory-bird law, and since 1918 as Federal game warden. Before his appointment in the Department he had taken a prominent part in the work of game protection in Arkansas and became familiar with all parts of the State and with conditions relating to interstate traffic in game in the Mississippi Valley.

Mr. Visart's activity as Federal game warden in his district has had a beneficial effect in bringing a better observance of game laws generally, and he was successful in enforcing the law relating to interstate commerce in game and in breaking up illegal traffic. He was actively interested in the preparation and passage of game protective laws in the State, and his early work had much to do with the establishment of the Arkansas Game and Fish Commission.

Funeral services were held at Mr. Visart's home in Little Rock on Monday, March 8. The members of the Bureau extend their sincere sympathy to Mrs. Visart and her daughter in their bereavement.

The following editorial is quoted from the Arkansas Democrat (Little Rock) of March 8:

"Arkansas sportsmen have lost a valuable friend in the death of E. V. Visart, federal game commissioner, who died Saturday night at his home here. To him is due much of the credit for the better protection of game in this State and for the aroused interest in the conservation of wild life in Arkansas."

"When Mr. Visart came to Little Rock in 1906 he became interested in game preservation and that interest increased each year despite many discouraging experiences of which Mr. Visart and his close friends knew. But he won his long fight and when the national game protective law was enacted by congress he was clothed with authority to call upon the government to aid him in saving our wild life."

"A man of both physical and moral courage, Mr. Visart eventually won the sportsmen of the State, who, at the time of his death, were among his most ardent supporters. The farmers learned the value of the birds partly through his teaching and were joining with him in their protection. As the organizer of the local Audubon Society he was instrumental in having the study of bird life introduced in the schools."

"Mr. Visart will be missed by thousands of Arkansans who knew him and his works -- and if the 'birds and the beasts of the forests' can experience the emotion, they too will miss him as their best friend."

Cases Terminated - - Reports Received During February

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Harris*	2	Arkansas	Killing ducks in close season	\$25 each
Holland*	1	Louisiana	Killing doves in close season	\$10
"	1	"	Killing cranes	\$25
"	1	"	Selling two ducks	\$100
"	1	"	Possessing ducks in close season	\$10
"	1	"	Killing ducks in close season	\$25
"	1	"	Killing nongame birds	\$10
Lingbaugh, Blackwell*	3	Illinois	Selling ducks	\$25 each and costs of \$27.35 each
"	1	"	Selling ducks	\$25 and costs of \$34.97
"	1	"	Selling ducks	\$25 and costs of \$30
Riddick, Hampe*	2	Texas	Possessing doves in close season	1 hour each in custody of marshal
Riddick, Smothers*	2	"	Possessing sandpipers	\$10 each
Riddick,	1	"	Illegal interstate shipment of ducks	One cent
Whitehead, Harrell**	4	Georgia	Killing doves in close season	\$20 each
Yanch*	1	Texas	Killing sandpipers	1 day in custody of marshal

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barmeier	1	Missouri	Killing a heron
Barmeier, Spellman**	1	"	Killing ducks in close season
Birsch, Jones*	1	North Carolina	Selling ducks
Blackwell*	2	Illinois	Selling ducks
Bloxsom, Oliphant*	2	Virginia	Hunting ducks after sunset
Bloxsom, Weems**	1	Maryland	Possessing sandpipers
Bloxsom, Stevens**, Bonniwell**	2	Virginia	Possessing trapped ducks
Creech*, Riedinger*	1	Missouri	Killing insectivorous birds
Fleming*, Randall**	3	Indiana	Hunting ducks after sunset and from a motorboat
Harris*	2	Arkansas	Killing ducks in close season
Hampe*	1	Texas	Killing a grebe
"	12	"	Possessing killdeers
Holland*	1	Louisiana	Selling ducks

Holland*	1	Louisiana	Killing doves in close season
"	1	"	Killing cranes
"	2	"	Possessing ducks in close season
"	1	"	Killing nongame birds
Kelsey	6	South Dakota	Hunting ducks after sunset
"	1	"	Possessing ducks in storage in close season
Pacetti	1	Florida	Trapping robins
"	2	"	Killing coots in close season
Riddick, Hampe*	1	Texas	Possessing insectivorous birds
Roahen	6	Illinois	Possessing ducks in storage in close season
Roahen, Hahn**	9	"	Possessing ducks in storage in close season
Roahen, Scholler*	4	"	Possessing ducks in storage in close season
"	2	Iowa	Possessing ducks in storage in close season
Roahen, Steele	1	Illinois	Hunting ducks in close season
Shaver	2	Minnesota	Hunting killdeers
"	1	"	Hunting killdeers and killing a bittern
Shaver, Moore**	1	"	Possessing ducks in storage in close season
Smith	1	Maine	Possessing ducks in storage in close season
Smith, Wallace*	5	"	Hunting ducks in close season
Steele, O. D.	1	Illinois	Hunting ducks in close season
Steele, R. C.	2	Washington	Hunting ducks after sunset
Steele, R. C., Jones**	3	"	Hunting ducks after sunset
Whitehead, King*	1	South Carolina	Killing a wood duck
Whitehead, Beard**	1	Georgia	Shooting at ducks from a motor-boat
Whitehead,	2	"	Possessing doves in storage in close season
"	2	"	Possessing ducks in storage in close season
"	1	"	Possessing robins

*U. S. Deputy Game Warden

**Deputy State Game Warden

THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
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No. 4

GENERAL NOTES

Doctor Nelson returned to the office on April 21 from his inspection tour of bird reservations and other projects of the Bureau in Florida and southern Georgia. Both States are showing marked increase in public sentiment favoring the protection of wild life, and at the last sessions of the State legislatures their game laws were much improved. The Tamiami Bird Reservation, extending from Bradenton, on the south side of Tampa Bay, to beyond Sarasota, along the Gulf coast, established by the State last year, is proving successful, says Doctor Nelson. Many herons seen there, including both species of egrets, gave evidence of their appreciation of friendly surroundings by paying little attention to passing automobiles. One of the novel sights within this reservation a few miles west of Bradenton and on the top of a pine tree about 50 yards from a much-used automobile highway, was the nest of a bald eagle containing a nearly grown young.

Doctor Nelson has recently accepted an invitation to serve on the Advisory Board of Royal Palm State Park Committee of Florida, which is endeavoring to re-establish the birds on the 4,000 acres owned by this park.

The eighth annual stated meeting of the American Society of Mammalogists convened in the American Museum of Natural History, New York City, on April 27, with the Biological Survey represented on the program at various sessions by the following papers: "Some Aspects of Morphological and Palaeontological History of the Organ of Hearing in the Cetacea," by Remington Kellogg; "Field Notes on Animal Behavior," by Dr. W. B. Bell; "Hibernation of Some of Our Smaller Mammals," by Vernon Bailey; and "Modern Fur Farming," by Frank G. Ashbrook. Other members of the Bureau who attended were Dr. H.H.T. Jackson, A.B. Howell, Dr. T.S. Palmer, E.A. Goldman, E.A. Preble, Ernest P. Walker, and Mrs. Viola S. Snyder. On the opening day of the meeting, through the courtesy of representatives of the fur industry, members of the Society were conducted through one of the largest fur-receiving houses in New York and also through a dressing and dyeing plant where muskrat fur is converted into Hudson seal. Under the guidance of officers of the New York Zoological Society, the mammalogists also took a tour through the Bronx Zoological Park.

Frank D. Smith, of the Office of Publications, in charge of the Department's printing work at the Government Printing Office, conducted the class in Bulletin Writing of the Department Graduate School and other members of the Department through the Government's big printery on April 15. Members of the Biological Survey accompanying the party were Frank G. Ashbrook, Dr. W.B. Bell, James Silver, W. H. Cheesman, and Paul H. Oehser.

Manuscripts have been submitted for outside publication as follows:

- Lincoln, Frederick C. "Bird Banding in America" and "Banding Gulls and Terns in Lake Michigan; 1924 and 1925."
- McAtee, W.L. "Review of Williamson's 'The Lone Swallows'" and "An Investigation of the Food of Terns in England."
- Murie, Olaus J. "Adventuring with the Alaska Wren."
- Musgrave, M. E. "The Western Livestock Man Has Helped Conserve Wild Life" and "The Call of the Southwest."
- Oberholser, Harry C. "February and March Birds about Washington, D. C." and "Descriptions of Nineteen New East Indian Passerine Birds."
- Preble, Edward A. "Review of 'Naturalist's Guide to the Americas.'"
- Silver, James. "The Introduction and Spread of House Rats in the United States" and "Ridding the Farm of Woodchucks."

BIOLOGICAL INVESTIGATIONS

Reports from A. H. Howell, who is conducting field investigations in Florida, indicate that he is having a successful trip. During the first week in April he made an examination of the bird life about Cape Sable and East Cape, including several of the keys in Florida Bay. He then visited Bradenton, from which an examination of Egmont Key was conducted to ascertain its desirability as a bird reservation, and later investigated Ship Island, Miss., to determine its nesting birds. A large flock of royal terns was seen here, but the birds were not yet nesting on April 12, although Mr. Howell was informed that the birds do nest at a later date. He expects to follow the coast eastward by motor-boat from Pensacola, making a detailed examination as far as Cedar Keys.

Vernon Bailey has just returned from a brief trip to northern Pennsylvania, where he has been checking up on the increase of the beaver colonies introduced in Potter County five years ago. The two original pairs placed there in 1921 were estimated last year to have increased to 50 individuals. Nineteen of these have been trapped alive and moved to other localities for breeding stock, and three have been killed accidentally. The wardens now estimate that there are 75 beavers in the vicinity, which with those removed and their progeny would indicate a rate of increase of more than 100 per cent during the year.

T. H. Scheffer during the early part of March conducted investigations of ground squirrels in the lower Yakima Valley and in the region east of the Columbia River. Most of the latter part of the month he spent in studying the habits of various mice that frequent mole runways and feed upon various bulbs, grains, and root crops, these depredations being commonly attributed to the mole.

During the early part of April two trips were made down the Potomac to points near Indian Head by members of the Bureau to observe migratory wild fowl. A few species which are locally uncommon, including the bufflehead, the ring-necked duck, and the hooded merganser, were seen. Canvasbacks were gone by April 13 and black ducks greatly reduced. Mallards were last seen on April 7. Lesser and greater scaups held their own for the first 10 days of April, but after that decreased rapidly.

Ernest C. Marshall, of Laurel, Md., has been temporarily appointed junior scientific aid, effective April 1, to assist C. H. M. Barrett in taxidermy work.

Miss Ruth Richards was on extended leave during the month visiting her brother in Florida.

ALASKA INVESTIGATIONS

Mrs. Lillian I. Kay, clerk in the office of the Alaska Game Commission, resigned effective April 15 to enter the Bureau of Public Roads.

Daryl B. Cheyne, for several years an employee in the Department disbursing office in Washington, has been appointed chief clerk in the Juneau office of the Alaska Game Commission. Arrangements are also being made to have him designated deputy fiscal agent to enable him to carry on the fiscal work of the Commission in the absence of the executive officer, Ernest P. Walker, who under the Alaska Game Commission is also fiscal agent. Mr. Cheyne will arrive in Juneau about the middle of May.

Thomas D. Jensen, Alaska game commissioner from the second judicial division, arrived in Nome on April 17 after having been in Juneau from February 3 to March 2 attending the annual meeting of the Alaska Game Commission.

ECONOMIC INVESTIGATIONS

Order has been placed with Denver taxidermists for mounts of mountain lion, wolf, coyote, bobcat, and a number of the more important rodents, to be used at the sesquicentennial exposition at Philadelphia beginning June 1. The exhibit will illustrate the characteristic damage done by these animals and their relation to the conservation of game animals and birds, and the increase of crops, forage, and livestock.

S.E. Piper, leader of the eradication-methods project, of Denver, Colo., recently spent two weeks in the vicinity of Durango, Colo., conducting experiments in an effort to improve methods of combating prairie dogs there. Although stormy weather interfered somewhat with field tests, interesting observations were made and a variety of preparations tested. E. E. Horn, after completing an extended program of investigational work at Washington, D.C., spent a few days in Denver in consultation with Mr. Piper and in reviewing work at the laboratory. He is now carrying on field tests in Arizona to improve control methods against prairie dogs, pocket gophers, and porcupines.

F. E. Garlough, stationed at Berkeley, Calif., has recently been spending some time in Oregon and Washington conducting experiments with a view to improving methods and practices in the control of pocket gophers, ground squirrels, and moles.

D. A. Gilchrist, leader of rodent control in Arizona, reports some preliminary tests with a new method of destroying pocket gophers by the use of hydrogen sulphocyanic-acid gas. One hundred and twenty-two pocket gophers were reported killed as a result of treating 125 burrow systems with this gas. Cost of application promises to compare favorably with methods previously employed, and more extended trials will be made to determine the adaptability of this method to Arizona and other localities.

James Silver, leader of the eastern rodent-control district, spent the latter part of April in Georgia, investigating the relation of cotton rats to quail and other ground-nesting birds and studying methods for the control of the rodents.

R. E. Bateman, leader of predatory-animal control in Montana, reports that Hunter Brannin has succeeded in capturing, in the Little Belt Mountains near Utica, Mont., a notorious old three-footed female wolf, the leader of a destructive pack that has ranged in that locality for a number of years. Traps and poison failed to get the animal but Mr. Brannin finally trailed it to its den. Hunter John E. Oswood has also succeeded in poisoning a pair of wolves that has ranged in the Sweetgrass Hills for many years.

George E. Holman, leader of predatory-animal control in Utah, has recovered fully from the accident which disabled him for some time last fall and has recently been inspecting the important livestock ranges of his district and conferring with cooperating stockmen's associations. He reports gratifying progress in obtaining cooperation from stockmen and satisfactory results from poisoning operations of the past winter. Mr. Holman and R. Scott Zimmerman, leader in rodent control in Utah, put on an interesting exhibit, illustrating predatory-animal and rodent-control work, at the annual Intermountain Livestock Show, held at Salt Lake City, March 27-31, in cooperation with other bureaus of the Department.

E. C. Cates, of Montana, has been appointed junior biologist, effective April 1, and assigned to work in Montana as assistant to O. E. Steph, leader of rodent-control in that State. Edward Edgington, of New Mexico, also has been appointed junior biologist, effective April 1, and assigned to work in New Mexico under the leadership of A. E. Gray. A. L. Bridenstine, who has been employed in New Mexico during the past year has been assigned as assistant to Mr. Zimmerman in Utah.

Reports from the field indicate that the past winter has been a successful one in poisoning operations against predatory animals and that the work of cleaning up poison stations and picking up predatory animals that escaped poisoning is well under way. Field operations against prairie dogs and ground squirrels are being taken up actively following the winter's work on pocket gophers, jack rabbits, and house rats.

The radio is being used more and more by field men of the Bureau in bringing the work of the Biological Survey to the public. Radio talks have recently been given by G. C. Oderkirk in Indiana and Illinois, Ira N. Gabrielson in Oregon, A. E. Oman and Roy Moore in Kansas, and Albert M. Day in Wyoming.

FUR RESOURCES

Lists of breeders of utility rabbits and of breeders of fancy rabbits have been compiled and will soon be ready for free distribution to inquirers who may wish to communicate with rabbit breeders in different sections of the country for the purchase of stock. The combined lists contain approximately 4,000 names arranged alphabetically by State.

D. Monroe Green spent several days in New York City during the early part of the month to assist in sorting and grading a shipment of 100,000 rabbit skins sent from California to the raw-fur market in New York. The skins were of good average quality but small in size, ranging in price from 15 cents to \$1.25 each.

Bridgewater Arnold spent the early part of April in New York collecting statistics relating to the American and English fur auction sales. He returned to Washington on April 21.

GAME AND BIRD RESERVATIONS

Mr. Goldman returned on April 10 from Mexico, where he spent a couple months visiting the principal wintering grounds of migratory waterfowl.

Three elk were shipped recently from Sullys Hill Game Preserve, N. Dak., to a purchaser at French Creek, W. Va.; two buffalo from Wind Cave Preserve, S. Dak., to Atchinson, Kans., for the city park at that place; and a buffalo calf from the National Bison Range, Mont., to a purchaser at Colville, Wash.

"Kate," the 24-year-old buffalo cow at Sullys Hill Game Preserve, died on April 12. This animal was one of the original Sullys Hill herd, which consisted of six buffalo presented to the Government by city authorities of Portland, Oreg., in 1918.

MIGRATORY-BIRD TREATY AND LACEY ACTS

Federal Game Warden P. K. Hilliard reports that on March 14 the eastern New Jersey marshes had an extraordinary number of mated black ducks and that never in all his 14 years as game warden had he seen so many pairs of them. He also states that he and Deputy Game Warden Frank Pierce have been watching many wild geese mating and leaving the flocks, and that on March 19 there were hundreds of thousands of brant in Tuckerton and Great Bays. Several baymen also stated that there were more brant there this year than ever before known.

Federal Game Warden W. L. Birsch reports that more ducks and geese than usual wintered along the James River, Va., during the past season and that gunning increased along the river.

Federal Game Warden J. E. Perry, of Tennessee, in a report of April 13 writes: "During the time I spent in Arkansas from March 8 to 28, I saw more mourning doves, snipe, and sandpipers than I have seen for the past five years. In fact, there were thousands of mourning doves in all directions, especially in the rice district and they were particularly noticeable in the early mornings along the highways while they were feeding. I also found a number of woodcock."

According to a report of Federal Deputy Game Warden D. P. Brady, of Windom, Minn., the first ducks of the spring migration appeared in the southern part of Minnesota about the last week in March and increased up to April 15, when there were more migratory birds in that part of the State than at any time for 10 years. There were great numbers of blue, white, and Canada geese, mallards, and pintails, although ducks of every description were numerous.

A violator arraigned in Federal court at Nashville, Tenn., on March 29, charged with killing robins, was found guilty, fined \$100, and severely admonished by the court. On account of the needy circumstances of the violator, however, and his plea that he was the sole support of eight children, the court reduced the fine to \$25.

The largest fine ever assessed for hunting ducks after sunset was imposed in Federal court at Wilmington, Del., on April 8, when a gunner, long known as a game-law violator, plead guilty and was fined \$300. The evidence in the case was furnished by Federal Deputy Warden Stewart.

To conform with a law passed by the last session of the Kentucky legislature and with a resolution recently adopted by the South Carolina legislature, further amendments to the migratory-bird treaty act regulations affecting the open seasons on certain game birds in these States were adopted by the Secretary of Agriculture and approved by the President on April 22. In Kentucky the open season on waterfowl (except wood duck, eider ducks, and swans), coots, gallinules, and Wilson snipe or jacksnipe was changed from the period October 1 to January 14 to the period November 1 to January 31; and in South Carolina the open season on mourning doves was changed from the period September 1 to December 15 to the period October 16 to January 31.

Cases Terminated -- Reports Received During March

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier	3	Missouri	Hunting ducks after sunset	\$5 each
Barmeier, Maitland**	1	"	Possessing a duck in close season	\$5
Bloxsom	2	Delaware	Killing ducks in close season	\$10 each
"	1	Maryland	Hunting ducks after sunset	\$10 and costs
Bloxsom, Dillahay**	2	Delaware	Hunting ducks after sunset	\$10 each
Bloxsom, Mushbach, Creighton*	1	Maryland	Killing a duck from motorboat	\$10 and costs
Bloxsom, Watson**	1	"	Hunting ducks after sunset	\$10 and costs
Bloxsom, Wiley**	1	Delaware	Killing a nighthawk	\$1
Harris*	1	Arkansas	Killing a robin	\$10
"	1	"	Killing a duck in close season	\$10
Holland*	1	Louisiana	Killing ducks in close season	\$25
"	3	"	Killing doves in close season	\$10 each
"	1	"	Possessing coots and gallinules in close season	\$10
Hoffman, Obscur*	1	"	Selling ducks	\$1
" "	1	"	Selling ducks	\$25 and costs
Linebaugh	1	Kentucky	Killing a duck in close season	\$25
"	1	Tennessee	Killing robins	\$25
Mestel*	1	Illinois	Hunting ducks in close season	\$15 and costs
"	1	"	Killing ducks in close season	\$25 and costs
Obscur*	1	Louisiana	Selling ducks	\$25 and costs
Pacetti, McCarley*	1	Florida	Hunting ducks after sunset	\$10
Riddick, Shaw**, Lucas**	1	Texas	Possessing a gull and bittern	\$10
Shaver	1	Minnesota	Possessing ducks in storage in close season	\$1
"	2	"	Hunting ducks after sunset	\$5 each
"	1	"	Hunting ducks after sunset	\$10
Shaver, Drum**	1	"	Possessing ducks in storage in close season	\$10
Shaver, Moore**	1	"	Possessing ducks in storage in close season	\$10
Smith, Stadlmeir, Tribou*	1	Massachusetts	Killing ducks at night	\$5
Steele, O. D.	1	Nebraska	Killing a swallow	\$1
Steele, R. C.	2	Washington	Hunting waterfowl after sunset	\$5 and costs of.
Steele, Jones**	3	"	Hunting ducks after sunset	\$20.05 each and costs of \$20.05 collectively
Stewart*	1	Delaware	Hunting ducks after sunset	\$300
Tilton**, Randall**, Ehlers*	2	Indiana	Hunting ducks in close season	\$1 each

Tilton**, Randall**, Ehlers*	1	Indiana	Hunting ducks in close season \$10
Tonkin	1	California	Possessing ducks in storage in close season \$25
Whitehead	1	Georgia	Killing a dove in close season \$10

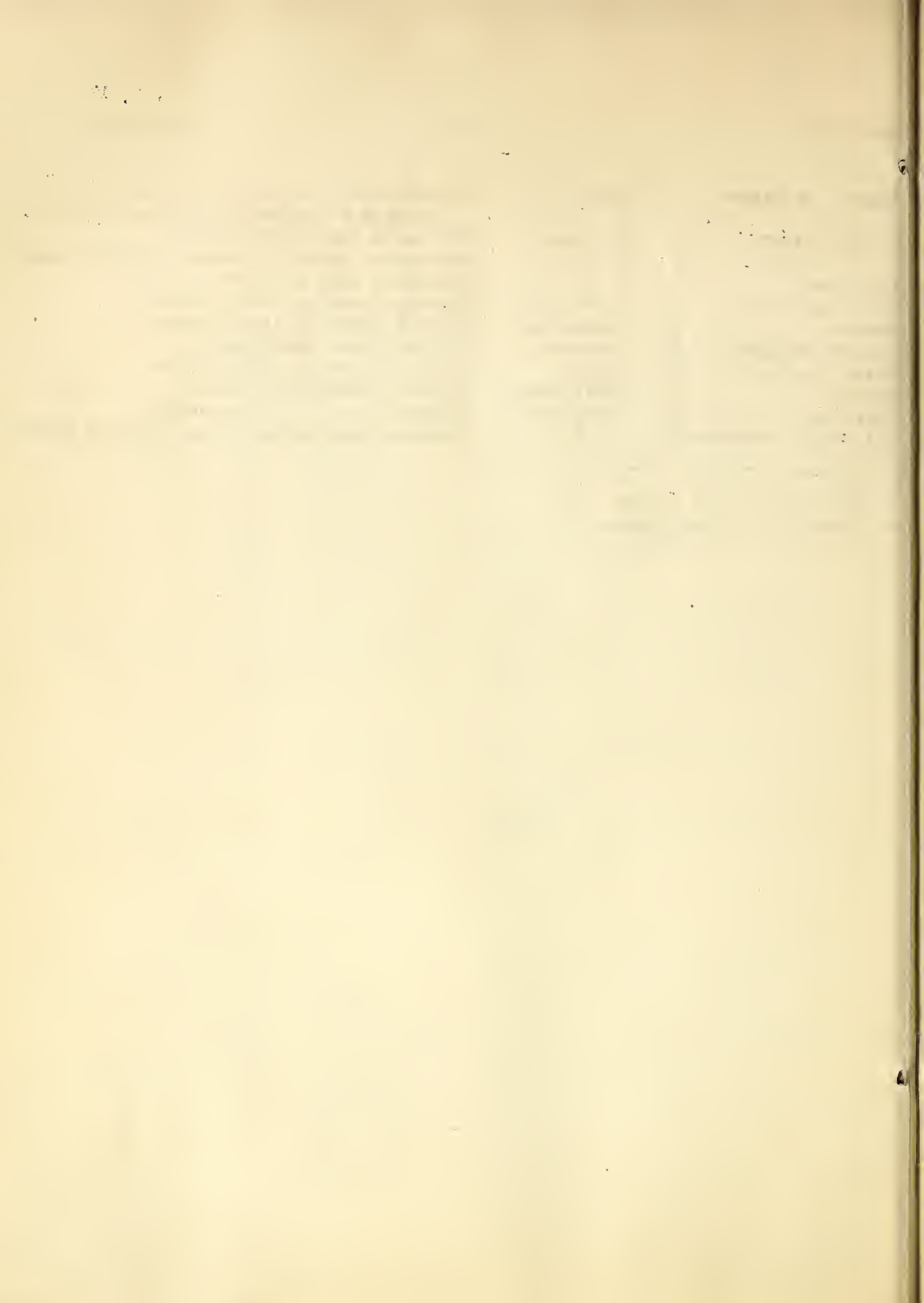
Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barmeier	2	Missouri	Hunting ducks after sunset
Barmeier, Mrovka*	2	"	Hunting ducks in close season
Bendler*	6	Delaware	Hunting ducks after sunset
Creech*, Ferrier*	1	Missouri	Killing ducks after sunset
Farnham, Lehne**	2	New York	Possessing ducks in storage in close season
Hampe*	2	Texas	Possessing killdeers
"	4	"	Possessing meadowlarks
"	2	"	Selling ducks
Harris*	1	Arkansas	Killing a robin
"	1	"	Killing a duck in close season
Heller*, Twillman**	1	Missouri	Hunting ducks after sunset
Holland*	1	Louisiana	Killing ducks in close season
"	3	"	Killing doves in close season
"	1	"	Possessing coot and gallinules in close season
King*	2	So. Carolina	Hunting ducks after sunset
Kelsey	1	So. Dakota	Possessing ducks in storage in close season
"	1	No. Dakota	Possessing a goose in close season
Kelbey, Brown*	3	"	Hunting ducks after sunset
Magbee*	2	Georgia	Killing robins
Pacetti	1	Florida	Possessing and selling doves in close season
"	2	"	Killing coots in close season and from a motorboat
"	1	"	Possessing doves in close season
Pacetti, McCarley*	1	"	Hunting ducks after sunset
Pingley	5	Maryland	Hunting ducks after sunset
"	1	"	Possessing a duck in close season
"	1	West Virginia	Killing a goose in close season
Pingley, Creighton*	3	Virginia	Hunting ducks after sunset
Riddick, Hampe*	1	Texas	Possessing a robin
Ransom	1	Washington	Possessing ducks in storage in close season
Rogalla*	1	Minnesota	Hunting ducks after sunset
Roahen	4	Illinois	Possessing ducks in storage in close season
"	1	"	Possessing wood ducks
Roahen, Scholler*	2	"	Possessing ducks in storage in close season

Roahen, McQuirk**	1	Iowa	Shipping prairie chickens contrary to section 4, migratory-bird treaty act
Roahen, Steele	1	Illinois	Killing a duck after sunset
" "	1	"	Possessing ducks in storage in close season
Scholler*	1	"	Killing a duck in close season
Scholler, Steele	1	"	Hunting ducks in close season
Shaver	1	Minnesota	Hunting ducks in close season
Smith**, Bloxsom	3	Maryland	Hunting ducks after sunset
Smith, Wallace*	2	Maine	Hunting ducks in close season
Tonkin	2	California	Hunting ducks after sunset
Whitehead	3	Georgia	Killing doves in close season
Whitehead, Skipper**	6	"	Hunting doves prior to half hour of sunrise

* U.S. Deputy Game Warden

** Deputy State Game Warden



THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE

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No. 5

GENERAL NOTES

The Bureau force in Washington celebrated Doctor Nelson's birthday on Saturday, May 8, by a luncheon held in the joined offices of Economic Investigations and Game and Bird Reservations. Entering the middle of these rooms, the Chief was completely surprised on being greeted by the applause of the whole force gathered there. Doctor Fisher, the dean of the staff of the Bureau, voiced the congratulations of the force and Doctor Nelson responded fittingly. Refreshments were served and a unique gift was presented Doctor Nelson in the form of a card from each member present, depicting species of animals, birds, or plants that had been named for him, or that recalled some incident in his active and interesting life in the United States, Alaska, and tropical America. Dr. C. Hart Merriam, first chief of the Biological Survey, and Dr. Alexander Wetmore, formerly of the Bureau and now assistant secretary of the Smithsonian Institution, also were present at the brief celebration.

Mr. Henderson spent several days during the latter part of May in Iowa, Minnesota, and Wisconsin in connection with the work of procuring lands for the Upper Mississippi River Wild Life and Fish Refuge.

At the annual election of officers of the Biological Society of Washington held at the Cosmos Club on Saturday, May 8, all officers and council members were re-elected, including the following from the Biological Survey: Dr. H. C. Oberholser, president; E. A. Goldman, first vice-president; Dr. H. H. T. Jackson, fourth vice-president; and F. C. Lincoln, treasurer.

Miss Elizabeth Olmsted spent several days' vacation during the week of May 10 at Atlantic City, N. J.

The Agricultural Appropriation Bill for the fiscal year ending June 30, 1927, as approved by the President on May 11, 1926, carries a total appropriation for the Biological Survey of \$937,365. The details of the increases and decreases in the Bureau's specific allotments may be found in The Official Record for May 19, 1926, near the middle of the second column of page 7. (Through a typographical error, the words "Bureau of Biological Survey" were omitted above word "Salaries," paragraph 4 of the tabular matter.)

Paul H. Oehser, assistant in the Editorial Office, is spending two weeks' vacation at his Alma Mater at Greenville, Ill., and with friends in Chicago.

The following publications of the Bureau were received in May:

- "Text of Federal Laws and Regulations Relating to Game and Birds," Service and Regulatory Announcement, B. S. 65. Received May 14.
- "Laws and Regulations Relating to Game, Land Fur-bearing Animals, and Birds in Alaska," Circular No. 2, Alaska Game Commission. Received May 28.

Radio talks by members of the Bureau have been broadcast as follows:

- Bailey, Vernon. "Mammals of the Vicinity of Washington," from Station WRC, Washington, D. C., on May 22, under the auspices of the Smithsonian Institution.
- Gabrielson, Ira N. "Description and Habits of Oregon's Small Mammals" and "Description and Habits of Some of Oregon's Birds," from Station KOAC, Corvallis, Oreg., on April 28 and May 5, respectively.

Manuscripts have been submitted for outside publication as follows:

- Bailey, Vernon. "A Reconnaissance of the Mammals in the Vicinity of Sewickley, Pa."
- Gilchrist, D. A. "Destruction of Pocket Gophers by Calcium-cyanide Flakes and Dust."
- Holman, George E. "Predatory Animals."
- Jackson, Hartley H. T. "Review of 'Naturalist's Guide to the Americas.'"
- Jewett, Stanley G. "Ferruginous Rough-leg Nesting in Oregon."
- McAtee, W. L. "Birds Feeding on the European Corn Borer (Review)," "Black-bird Roosts," "Economic Ornithology in Recent Entomological Publications," and "Birds of the Golf Course: The Robin."
- Musgrave, M. E. "Some Interesting Habits of Mountain Lions in Arizona." and "The Mountain Lion is a 'Fraidy Cat.'"

BIOLOGICAL INVESTIGATIONS

A. H. Howell has completed his season's field work in Florida, which was conducted by motorboat eastward along the Florida coast, with an occasional trip inland to important places. He reached Panama City on April 29. Boat travel permitted investigations on a number of islands, the fauna of which has heretofore been unknown. A side trip was made by skiff up the Aucilla River with H. L. Stoddard. The Swainson warbler and other interesting birds were seen, but no ivory-billed woodpeckers. Interesting mammals collected during the cruise include a series of the white-headed beach mouse and the small round-tailed muskrat (Neofiber). Mr. Howell has reached Cedar Keys and is on his way to Washington.

Continuing his beaver studies in Pennsylvania, Vernon Bailey has built a beaver house on the edge of an inclosed pond near Mifflinburg, with a door for entrance and convenient observation of the habits of the animals. A large old female beaver, captured in a cage trap and placed in the house, gave birth to six young about a week later. At birth the young were well developed and active, completely furred, and their eyes were open. The family is now being watched as the young grow up. The mother is gentle and allows the young to be handled and examined at any time. Many important data are being gathered.

On May 11 Mr. Bailey gave a talk before members of the Washington Club on fur-bearing animals and the future fur supply.

Dr. H. C. Oberholser, during the third and fourth weeks of May, made observations on the northward flight of shorebirds on the coast of New Jersey between Tuckerton and Cape May, to obtain data on migration and on the comparative numbers of the various species.

F. C. Lincoln, who holds a commission as first lieutenant in the Officers' Reserve Corps (Signal Service), left Washington on May 16 for Fort Monmouth, N. J., to report for two weeks' active duty at the officers' training camp.

Dr. W. P. Taylor, of Tucson, Ariz., in company with a representative of the Southwestern Forest Experiment Station, visited the Santa Rita Range Reserve, on April 8 and 9, and the Chiricahua Mountains, on April 11 to 15, to study the relation of rodents to the forest. They also visited the Dragoon Mountains enroute, to note any changes in the fauna and flora that may have taken place on account of the virtual destruction of the forests of Arizona cypress about 50 years ago.

Dr. Taylor also made an investigation of the status of the deer on the Kaibab Plateau during the last week of April and the first ten days of May.

Geo. H. Schaffer, stationed at Fuyallup, Wash., during April continued his work on the relations of various mammals to agriculture and horticulture. The species investigated included moles, ground squirrels, and pocket mice, a considerable part of this work being done in cooperation with W. B. Crouch and F. E. Garlough, of Economic Investigations. Later in the month the territory infested by the Yakima, Townsend, and Columbian ground squirrels was examined as far east as Colfax, Wash.

O. J. Murie left Washington on April 21 for Fairbanks, Alaska. When heard from, on May 13, he expected to leave there within a few days for a trip to Old Crow River, a tributary of the Porcupine River, near the boundary between Alaska and Yukon. He plans to spend the summer season in this section making general collections and observations on the various mammals and birds, with special reference to nesting species of waterfowl and shorebirds.

ALASKA INVESTIGATIONS

Revised regulations respecting game animals, land fur-bearing animals, game and nongame birds, and nests and eggs of birds in Alaska were adopted by the Secretary of Agriculture on May 15 and published on May 18. Important changes from existing regulations include modifications in the boundaries of fur districts, the establishment of an open season on beaver from May 1 to 31 in certain portions of western Alaska effective in the spring of 1927,

a seasonal bag limit of 20 beavers per person, and a system of sealing beaver and marten skins legally possessed or taken.

A maximum possession limit is provided for game animals, the same as the maximum seasonal limit, with the provision that in interior and northern Alaska permits may be issued to possess more than the seasonal bag limit of game animals when domestic meats are not available and the seasonal limit on game is not sufficient for local needs. In parts of northern Alaska meat of big-game animals and grouse and ptarmigan may be sold uncooked, but only by the person by whom killed.

A close season is placed on brown and grizzly bears from June 21 to the end of August with the provision that bears may be killed when endangering persons or property. The Caribou season is changed in the northern district and certain trapping seasons are slightly altered with a view of obtaining a higher average quality of furs. Special protection of game, fur bearers, and birds in the lower Taku River region has been removed, and on the Kodiak-Afognak Islands group introduced beavers and muskrats are given absolute protection.

The daily bag limit on ducks is increased from 20 to 25 and the limit on brant from 6 to 8. The maximum possession limit on waterfowl is raised from 50 to 75. Black-bellied and golden plovers are removed from the list for which there is an open season and the bag limits on jacksnipe reduced from 25 to 20 to correspond with the regulations under the migratory-bird treaty act.

The Alaska Game Commission at its annual meeting in February adopted revised regulations relating to guides, poisons, and resident trapping licenses, essentially the same as the old, with the exception that guides are not now required to devote the principal part of their time during the hunting season to guiding hunting parties.

Ernest P. Walker, executive officer of the Alaska Game Commission, who has been at the Washington office since March 9, left for Seattle, Wash., on May 27. He will join Mrs. Walker at Crookston, Minn. and they will sail early in June for Juneau, in the new boat recently constructed at Seattle for the use of the Commission, the Seal.

ECONOMIC INVESTIGATIONS

Dr. W. B. Bell left Washington on May 17 for western stations to confer with district officials, cooperators, and others interested in the work of the Bureau. He expects to return about July 15.

W. E. Crouch, leader of rodent control in Idaho, reports that with adequate preparations made at an early date, the ground-squirrel campaign this season was well under way by the latter part of March, and according to present indications there will be a larger area covered than last year. Arrangements have been made to conduct the campaign in 31 counties, and 124,000 pounds of bait for use on private lands are either on hand in the various counties or have been distributed. Provision has been made also for the purchase of 100,000 additional pounds as the season advances.

T. B. Murray, junior biologist in the Idaho district, who has been on furlough during the winter attending college, reported for duty on March 16 and organized the ground-squirrel work in the upper Snake River country.

R. E. Bateman, leader of predatory-animal control in Montana, has assisted Federal Game Warden Mushbach in a short investigation of the snow geese that were found dead on Priest Lake. Mr. Mushbach and a deputy State game warden counted 1,546 dead geese on the lake. Many of them were some distance in shore, but it was found that they had not been molested by coyotes or bobcats. Several had been taken to holes where badgers had hibernated through the winter.

A. E. Gray, leader of rodent control in New Mexico, reports a marked change in the attitude of cooperators toward rodent-control work. This condition was especially noticeable in Curry County, where it is reported that 35 ranches were treated and 100 per cent cooperation obtained. Mr. Gray left Albuquerque on May 12 for Portales, Roosevelt County, where he plans to put on several local jack-rabbit control campaigns, using the poisoned-salt method.

Junior Inspector Clyde F. Briggs, who caught the notorious wolf Three Toes, has been presented with a handsome gold watch by the Harding County Wool Growers Association. It is engraved as follows:

To Clyde F. Briggs from the Harding County Wool Growers in
appreciation of his capture of the three-toed wolf,
July 23, 1925.

The presentation was made at Buffalo, S. Dak., on April 23 in the presence of about 250 stockmen, bankers, livestock commission men, railroad officials, wool buyers, representatives from several of South Dakota's educational institutions, and State and Federal officials.

Leo K. Couch, leader of rodent control in Washington State, reports that April was an active month against various rodent pests, particularly ground squirrels. Approximately 30,000 pounds of poisoned grain and 100,000 pounds of calcium cyanide were distributed during the month for Columbian ground squirrels in Stevens, Pend Oreille, Spokane, and Whitman Counties.

J. Finley, junior biologist in the Washington district, cooperated during April with the county agent of Douglass County in groundhog work in the Palisades, Foster Creek, and Bridgeport Bar sections. All the farmers turned out and with Mr. Finley mixing green-alfalfa baits, which were distributed along the rock slides, obtained more than 50-per-cent results. Although there are some groundhogs left, the farmers are so pleased with the results that they plan to finish the job individually.

The case against John Barnum for assault with a deadly weapon upon Biological Survey Hunter T. W. McKinney on February 17 was tried on May 12 in the State court at Raton, N.Mex. The jury on May 13 brought in a verdict of guilty with a recommendation for clemency, and the court sentenced the defendant to from 2-1/2 to 3 years in the penitentiary, but suspended sentence during good behavior and upon payment of costs. Mr. McKinney had been stopped about four miles from Raton by Barnum, who flourished a revolver and told him that he knew him for a "reveruer" and was going to kill him. Only the pleading of a woman, whom he was driving with her baby to a neighbor's house saved Mr. McKinney.

M. A. Stewart, of the eastern rodent-control district, who has been stationed at Cornell University during the past year, has resigned effective May 31, on account of ill health. He has the best wishes of his many friends in the Bureau for a speedy recovery.

G. C. Oderkirk, of the eastern district, has recently returned to his headquarters at Purdue University from an inspection of rodent-pest conditions in Wisconsin. Pocket gophers were found destructive to leguminous crops in the dairy sections of the central part of the State. Rats are less a problem there than in most States because of better types of farm buildings. Ground squirrels are pests over restricted areas only, and complaints of crow depredations on corn and on poultry were common. Groundhog, field-mouse, rabbit, and mole injury was of little consequence in the counties visited.

James Silver recently returned from Thomasville, Ga., where he has made an investigation of cotton-rat control on areas where the propagation of quail is being studied by the division of Food Habits Research.

FOOD HABITS RESEARCH

E. R. Kalmbach has returned from the rice area of Louisiana, where he has been studying the blackbird-rice problem and conducting experimental work in control. This year's work supplements that done in 1925, so that data on practically the yearly cycle of the red-winged blackbird in its relation to the rice crop are now available. At the conclusion of the blackbird work several military posts in Louisiana were visited with the view of learning their value as bird refuges.

FUR RESOURCES

Mr. Ashbrook recently completed in New York City arrangements with the American Museum of Natural History to prepare and assemble a muskrat habitat group for the Division's exhibit at the Sesquicentennial Exposition at Philadelphia.

At the Experimental Fur Farm at Saratoga Springs 13 foxes produced a total of 39 pups this past season, all of which were doing well when Mr. Ashbrook was at the farm early in May. A large steel woven-wire fence now under construction will inclose an acre of land to be used as a large exercising pen for the breeding foxes as well as for those selected for pelting. The erection of a small guard fence for inclosing foxes, to determine methods of controlling ascarids affecting these animals, and the construction of rabbit hutches have been completed. At present there are 14 rabbits on the farm, and plans are being made to increase the breeding stock to 50 pairs, which will represent the various utility breeds.

Two mimeographed circulars on Chinchilla rabbits, Bi-883, "Breeders of Chinchilla Rabbits," and Bi-885, "Chinchilla Rabbits for Meat and Fur," are now ready for distribution.

Mr. Ashbrook visited muskrat marshland on the eastern shore of Maryland on May 19 and 20, in company with trap manufacturers of Chester, Pa., to experiment with a trap developed by them for taking muskrats alive.

A representative of a fur dressing and dyeing establishment of New York City, who visited the Bureau on May 4 to discuss the present rabbit-fur situation, reports rabbit skins bringing higher prices this year than at any time in previous years. This information coincides with reports of other rabbit-fur buyers, and indicates that the rabbit-fur business in the United States is becoming profitable.

GAME AND BIRD RESERVATIONS

Practically all the elk that had wintered on the Elk Refuge, Wyo., had drifted back to their summer range by May 1. They were in good condition as a result of the mild winter season, during which ample forage was available.

Warden George M. Wilson, of Belle Fourche Bird Reservation, S. Dak., reports that the largest flight of ducks seen in many years occurred this spring in that locality.

Warden Frank H. Rose and Assistant Warden H. H. Hoyt, of the National Bison Range, Mont., corralled approximately 400 buffalo on April 16. These animals will be held in the corrals and fed for a couple months, as for the past two years, in order to permit recovery of forage on the range.

Mallard and scaup ducks are numerous this season on Sweetwater Lake within the Sullys Hill Game Preserve, N. Dak., and there are also a few redheads and some goldeneye ducks there. The goldeneyes began early in May to make their nests in the boxes which had been put up in trees for them. Geese have not stopped for any length of time in this locality during the spring, but various flocks have been seen passing over the preserve.

More quail than usual have been reported at Wind Cave Game Preserve, S. Dak., this spring.

IMPORTATIONS

The season for the importation of quail from Mexico closed on April 30. The total number of birds imported during the season was 37,134, 25,397 being brought in at Brownsville, Tex., 10,000 at Eagle Pass, and 1,737 at Laredo. Most of these quail were shipped to points south of the Mason and Dixon Line.

MIGRATORY-BIRD TREATY AND LACEY ACTS

W. R. Dillon went to New York on April 22 to consult officials of the American Museum of Natural History and make arrangements for work in connection with groups to be exhibited at the Sesquicentennial Exposition at Philadelphia. The exhibits for this Division will include a mallard-duck hunting scene, with a painted canvas background, and a group of protected shorebirds, showing an ocean beach with birds painted in the background and mounted birds on a sandy beach built in as a foreground.

Warden K. F. Roaken is recuperating after a recent operation at St. Francis Hospital, Peoria, Ill.

Warden B. E. Smith reports a tremendous increase in Maine in this spring's flight of geese over that of last year.

Migratory-bird treaty act prosecutions in Federal court at Chicago, Ill., on April 22, resulted in the termination of 12 cases. In one case a fine of \$50 was imposed and in the remainder fines of \$25 each, in addition to costs.

Eighteen cases were terminated in Federal court at Galveston, Tex., on April 26, and fines totaling \$284 imposed. The cases were heard in a special term of court.

A violator arraigned on April 29 in Federal court for the eastern district of Missouri, entered a plea of guilty of hunting coots and ducks from a motorboat, and paid a fine of \$75. The activities of Federal game wardens on the Missouri River have been effective in the curtailment of the practice of shooting migratory waterfowl from motorboats, a common offense a few years ago.

A barber of Willows, Calif., decided to handle wild ducks as a sideline and eventually sold several birds to a Federal game warden. He was permitted to tell his story in Federal court at Sacramento, Calif., on May 3 and to pay a fine of \$100.

That the trapping of wild ducks contrary to the Federal game law is an expensive pastime must have been strongly impressed upon one violator when arraigned in Federal court at Norfolk, Va., on May 3, charged with capturing 37 wild ducks by this method. The accused entered a plea of guilty and the court imposed a fine of \$10 for each duck trapped, or a total of \$370. Being without sufficient funds the offender was committed to jail. The fine was paid, however, on May 8, when he was released.

Three offenders charged with killing mourning doves in close season were tried before a jury in Federal court at Athens, Ga., on April 12. A verdict of guilty was returned and a fine of \$150, each was imposed against two of the men and \$75 against the third. Two other cases involving a similar offense, submitted on the same day, were terminated by pleas of guilty and a fine of \$20 each.

Cases Terminated - - Reports Received during April

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barnes, Capps*	2	Virginia	Killing grebes	\$10 each
Berthelot**	1	Louisiana	Possessing ducks in close season	\$25
Bloxsom	4	Virginia	Shooting brant from motorboat	\$25 each
Bloxsom, Stevens**, Bonniwell**	1	"	Trapping ducks	\$370
Bonner*	7	No. Carolina	Hunting ducks from motorboat	\$10 each
Charlton	1	W. Virginia	Killing a coot from motorboat	\$25
Creech*	1	Missouri	Killing ducks from motorboat	\$75
Farnham, Merrifield**, Schrader**	2	New York	Hunting ducks after sunset	\$10 each
Fleming*, Randall**, Tilton**	1	Indiana	Killing a snipe in close season	\$10
" " "	1	"	Hunting ducks in close season	\$10
" " "	2	"	Hunting ducks in close season	\$1 each
Hampe*	4	Texas	Possessing insectivorous birds	\$10 each
"	3	"	Possessing insectivorous birds	\$25 each
"	1	"	Killing a grebe	\$12.50
"	1	"	Possessing killdeers	\$10
"	1	"	Possessing insectivorous birds	\$12.50
Holland*, Fagot**	1	Louisiana	Possessing doves in close season	\$25
Jankowski*	1	Illinois	Killing a bittern	\$25 and costs
Jones*	1	Virginia	Killing a woodpecker	\$5
McGill**, Langdon**	1	Pennsylvania	Possessing wood ducks	\$20
" "	2	"	Possessing wood ducks	\$10 each
Obscur*	1	Louisiana	Selling ducks	\$25
Perry	1	Mississippi	Shooting at wood ducks	\$5
Pingley	3	Maryland	Hunting ducks after sunset	\$5 each
Pingley, Creighton*	2	"	Hunting ducks after sunset	\$25 each and costs

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Riddick	2	Texas	Possessing sandpipers	\$12.50 ea
Riddick, Hampe*	2	"	Possessing ducks in close season	\$25 each
" "	1	"	Killing snipe in close season	\$25
" "	1	"	Possessing insectivorous birds	\$15
" "	1	"	Possessing a grebe	\$5
Riddick, Speckles*	2	"	Possessing doves in close season	\$10 each
Roahen, Scholler*	1	Illinois	Possessing 2 wood ducks	\$25 and costs
Scholler*	4	"	Possessing grebes	\$25 each and costs
"	1	"	Possessing a flicker	\$25 and costs
"	1	"	Possessing sandpipers	\$25 and costs
"	2	"	Shooting at ducks in close season	\$25 and costs
Schulze*	2	"	Possessing insectivorous birds	\$25 each and costs
Smith	2	Maine	Hunting ducks in close season	\$10 each
Smith	1	"	Possessing ducks in storage in close season	\$8
Smith, Wallace*	2	"	Hunting ducks in close season	\$5 each
Steele, O. D.	1	Nebraska	Killing a swallow	\$1
Steele, R. C.	1	Washington	Possessing ducks in storage in close season	\$10 and costs
Tonkin	1	California	Selling ducks	\$100
"	1	"	Possessing killdeer	\$25
Walker*	2	Maryland	Killing protected shorebirds	\$5 each and costs
Whitehead, Magbee*	3	Georgia	Killing doves in close season	\$20 each and costs
" "	1	"	Killing doves in close season	\$75
" "	2	"	Killing doves in close season	\$150 each
Whitehead, Pool**	1	"	Killing doves in close season	\$10

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barmeier	1	Missouri	Killing a goose from airplane
"	2	"	Hunting ducks in close season
Barmeier, Mrovka*	2	"	Hunting ducks in close season
Barmeier, Myers**	3	"	Hunting ducks in close season
Barmeier, Ott**	2	"	Hunting ducks in close season

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Berthelot**	1	Louisiana	Possessing ducks in close season
Bloxson	4	Virginia	Shooting brant from motorboat
Hoffman, Stewart**	1	Alabama	Possessing meadowlarks
Holland*	1	Louisiana	Selling ducks
Holland, Fagot**	1	"	Possessing doves in close season
Kelsey, Shaver	5	Missouri	Hunting ducks in close season
" "	1	"	Possessing ducks in close season
" "	7	Iowa	Hunting ducks in close season
Linebaugh	2	Tennessee	Killing ducks in excess of bag limit
Mrovka*	4	Missouri	Hunting ducks in close season
Obscur*	1	Louisiana	Selling ducks
Roahen, Hahn**	1	Illinois	Possessing ducks in storage in close season
Riddick	1	Texas	Possessing meadowlarks
Scholler*	1	Illinois	Hunting ducks in close season
Scholler, Fidler*	2	"	Killing ducks in close season
Shaver	13	Missouri	Hunting ducks in close season
"	1	"	Killing ducks in close season
Shaver, Schroer*	6	"	Hunting ducks in close season
Shaver, Lingle**	1	Minnesota	Possessing swans
Steele, Cooney*	2	Iowa	Hunting ducks in close season
Steele, R. C.	2	Washington	Hunting ducks after sunset
Walz*	3	Arkansas	Killing duck from motorboat

* U. S. Deputy Game Warden

** Deputy State Game Warden

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THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE

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No. 6

GENERAL NOTES

The sympathy of the Bureau is extended to its Chief, Dr. E. W. Nelson, in the death of his brother, Fred Nelson, of Winslow, Ariz., on June 23.

Dr. T. S. Palmer was one of the representatives of the Department of Agriculture at a conference of officials of the United States and Mexico at the Pan American Building, Washington, D. C., during the latter part of June, to discuss measures for preventing the smuggling of articles across the boundary between the two countries and suppressing the smuggling of aliens into the United States through Mexico.

Talbott Denmead represented the Department at the International Preliminary Conference on Oil Pollution held at the Pan American Building during the week of June 8. Twelve leading maritime powers participated in the conference, which drafted recommendations to the participating governments making the discharge of oil or oily mixtures in certain coastal areas an international misdemeanor.

Dr. A. K. Fisher and Frank G. Ashbrook visited the Bureau's Experimental Fur Farm at Saratoga Springs, N. Y., on June 19, 20, and 21. Doctor Fisher arranged for the production of catnip plants at the farm, and also, while in New York City, conferred with druggists in regard to obtaining catnip oil from commercial houses for use in trapping mountain lions.

Lisle Morrison and W. R. Dillon spent the week of June 21 in Philadelphia, where they assisted in completing arrangements for the installation of the Bureau's exhibit at the Sesquicentennial Exposition.

Guy W. Lane, of the Office of Accounts, spent the latter part of June on vacation at his home in Swayzee, Ind.

Mrs. Jessie M. Stabler, of the Office of Accounts, spent a two weeks' vacation during the month at Atlantic City.

The sympathy of the members of the Bureau is extended to E. J. Down, of the Property Office, in the death of his father, which occurred on June 8.

On page 3 is charted the organization of the Biological Survey as of July 1, 1926. This gives a complete résumé of the work of the Bureau and shows the relationships of the various projects.

The following publications of the Bureau were issued in June:

"Open Seasons for Game, 1926-27," compiled by Talbott Denmead and F. L. Earnshaw. Annual game-law poster (No. 45-Bi). Received June 23.

"Construction and Operation of Biological Survey Beaver Trap," by Vernon Bailey. Miscellaneous Circular No. 69. Received June 29.

Radio talks by members of the Bureau have been broadcast as follows:

Nelson, E. W. "The American Bison," from Station WRC, Washington, D.C., on May 15, under the auspices of the Smithsonian Institution. Delivered by Dr. Austin H. Clark, of the Smithsonian Institution.
Denmead, Talbott. "Let's Go Fishing," from Station WFBR, Baltimore, Md., on June 15. A review of fishing conditions of the past fifteen years, discussing needed legislation to protect the State's food and game fish.

Manuscripts have been submitted for outside publication as follows:

Goldman, E.A. "The Collared Peccaries of Middle America."
Lincoln, Frederick C. "Obituary Notice: W. J. Bradbury."
McAtee, W. L. "Birds of the Golf Course: The Flicker," "Hawks Against Poultry," and "Averages Are Fundamental in Economic Ornithology."
Oderkirk, Galen C. "How to Get Rid of Rats."
Oberholser, Harry C. "Migration of North American Birds: The Nighthawks" and "April and May Birds at Washington, D.C."
Preble, Edward A. "Taxidermy and Museum Exhibition, by John Rowley (a review)."

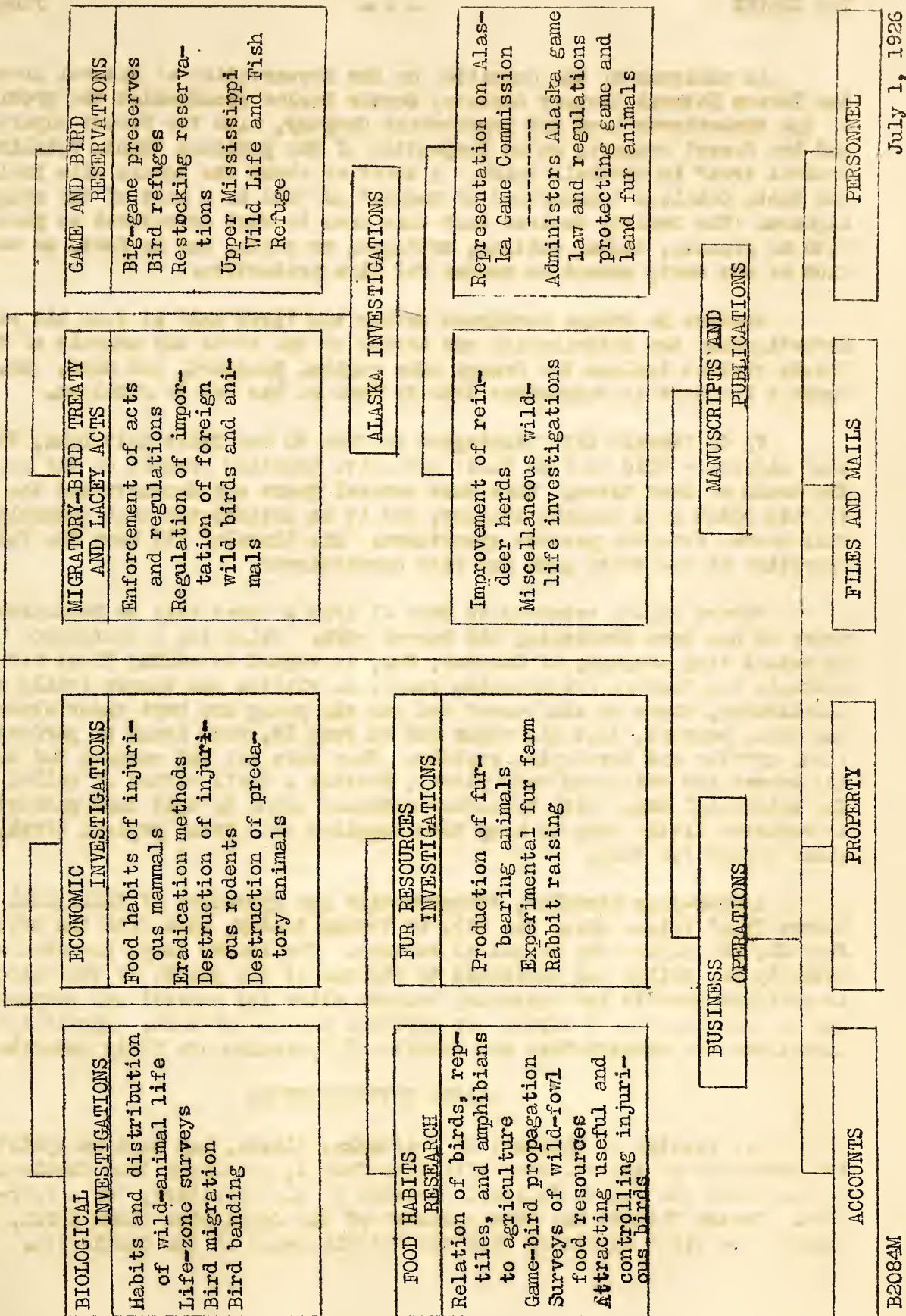
BIOLOGICAL INVESTIGATIONS

O. J. Murie left Fort Yukon, Alaska, at the mouth of Porcupine River, on June 11, on the final stage of his trip to the headwaters of Old Crow River, a tributary of the Porcupine, where he will band geese and other migratory wild fowl in order that the winter ranges of the birds breeding in this region may be determined. In some cases it has been demonstrated that birds breeding in certain sections concentrate for the winter in somewhat restricted areas, where special measures for protection are desirable. The banding work done at Hooper Bay in 1924 brought to light a striking example of this nature, and it is evident that work of this kind is destined to prove of great value in the formulation of protective measures.

T. H. Scheffer, during the third week of May, made an investigation of the ground squirrels of the Yakima Valley in the Prosser and Kennewick districts, Wash., in continuation of his program for making complete studies of the life habits of these important species. Four pairs of the Yakima ground squirrels were placed in the artificial hibernation quarters at the experimental farm at Prosser, where they will be cared for until they go into estivation.

Dr. W. P. Taylor, during his examination of the range inhabited by the mule deer on the Grand Canyon National Game Preserve, made some observations on the white-tailed squirrels of the region with a view to determining the desirability of capturing them for restocking purposes.

CHIEF OF BUREAU
ASSISTANT CHIEF



As chairman of the Committee on the Preservation of Natural Areas, of the Tucson Natural History Society, Doctor Taylor accompanied the president of the Summerhaven Land and Improvement Company, with two forest supervisors and two forest rangers, on an inspection of the proposed "Santa Catalina Natural Area" in Marshall Gulch. A tract of about one square mile includes the Santa Catalina "Wonderland of Rocks," as well as a part of the range of the bighorn. The Society desires that this area be kept as natural as possible, with no grazing, timber cutting, cottages, or roads, and in fact, no modification of any sort, except as needed for fire protection.

Wallace B. Grange continued during the first half of June his work of investigating the distribution and habits of the birds and mammals of Florida. Points visited include the Orange Lake region, Branford, and Mayo. Mr. Grange spent a few days in Washington late in June on his way to Michigan.

F. C. Lincoln left Washington on June 20 for Great Salt Lake, Utah, to band migratory wild fowl on their extensive breeding grounds on the marshes at the mouth of Bear River. Work done several years ago demonstrated the value of this point as a banding station, and it is anticipated that valuable results will accrue from the present operations. Mr. Lincoln will have the full cooperation of the State game and fish commissioner.

Vernon Bailey returned on June 21 from a short trip to Pennsylvania, where he has been continuing his beaver work. Following a conference with an animal trap company, of Chester, Pa., in regard to making traps for taking muskrats and beavers for breeding stock, he visited the beaver family near Mifflinburg, where an old beaver and her six young are kept under observation. The young beavers, just six weeks old on June 19, were found in perfect condition, growing and developing rapidly. They were not yet weaned, but were eating leaves and twigs and many plants, besides a small ration of rolled oats. The artificial house with back-door entrance seems to suit them perfectly, and it requires little work to keep them supplied with fresh poplar, birch, and other bushes for food.

A four-page circular, "Construction and Operation of Biological Survey Beaver Trap" (Misc. Circ. No. 69), by Vernon Bailey, came from the press on June 29, and copies may be had on request. The beaver trap, invented and patented by Mr. Bailey and dedicated to the use of the people of the United States, is designed chiefly for capturing beavers alive for control and propagation and can be manufactured by anyone for personal use or for sale. Specifications and directions for construction and details of operation are fully described.

ALASKA INVESTIGATIONS

Dr. Preston S. Whitney, of Fairbanks, Alaska, has been reappointed by the Secretary of Agriculture, effective July 1, as Alaska Game Commissioner, representing the Fourth Judicial Division of the Territory, for a four-year term. Doctor Whitney has been a member of the Commission since March, 1925, when he was first appointed with the establishment of the Commission.

ECONOMIC INVESTIGATIONS

Chas. G. Poole, leader of predatory-animal control in California, sends word that no unfavorable reports have been received from the old foot-and-mouth disease territory in Tuolumne County and the Stanislaus Forest and that the danger of a recurrence of the disease among deer is practically eliminated.

G. M. Trickle, senior administrative assistant in Colorado, spent practically the entire month assisting new hunters in predatory-animal work, and in the course of his operations in May he reports practically no loss on the lambing ranges from coyotes or bobcats.

Hunter W. J. Nearing, in carrying out his work on a ranch near Fruita, Colo., was successful in taking a 650-pound bear that had been making a series of raids on the rancher's herds. Its stomach contained three small lambs, which the bear had evidently gulped a short time before capture.

The manager of a large livestock company of Dubois, Idaho, reports that coyotes are scarce on the north end of the Targhee project and that losses from these animals have been very light. Not long ago this company employed night shooters against coyotes.

Sympathy is extended to Hunter W. E. Cozzens, of Cokeville, Wyo., whose 2-year-old son died on May 31.

Cattlemen of the Kaibab country on the Arizona strip adjacent to Utah have complained for several months of damage by a pair of timber wolves, and many unsuccessful efforts have been made to catch them. Recently, however, Geo. E. Holman, leader of predatory-animal control in Utah, detailed Hunters Willis and Rasmussen to that section, and after several days the old she-wolf was trapped, and "Blackie," Mr. Holman's thoroughbred foxhound, backtrailed and led the hunters to her den. Near it were the carcasses of eight colts, a number of calves, four deer, and part of a full-grown horse. Three of the wolf pups were killed and one was captured alive, and by automobile, train, and parcel post forwarded about 300 miles to Mr. Holman.

O. E. Stephi, leader of rodent control in Montana, and S. E. Piper, of the eradication laboratory, have been experimenting on both the Richardson and Armatus ground squirrels in the vicinity of Monida, Mont.

Albert M. Day, leader of rodent control in Wyoming, writes that an idea of the damage done by ground squirrels in Cokeville may be gained by noting the loss of water through their burrows along irrigation ditches. On one ranch were 15 holes, 25 feet below a small ditch, within a radius of 15 feet, and the water was bubbling up a foot or more high as it drained and broke out through the holes. Two ranch hands had been working for more than a week trying to stop the breaks and had thrown approximately 400 sacks of dirt in to plug the leaks. In one instance, the water had washed a hole 3 feet wide, 4 feet long, and 5 feet deep in the bottom of the ditch. It was necessary to flume the break, and the superintendent of the ranch stated that the whole hillside would have to

be flumed unless the ground squirrels were checked. He also stated that in three years ground squirrels have caused at least \$5,000 damage in loss of water, damage to crops, and breaks in ditches. Mr. Piper is experimenting in this district on various poison mixtures to be used against the ground squirrels.

Galen C. Oderkirk, of the eastern rodent-control district, has spent two weeks carrying on successful rat-control demonstrations in Wisconsin. At one demonstration rat holes in a poultry house were dusted with crude calcium cyanide and twelve rats driven out. Burrows were then excavated and 110 dead rats removed. An area of approximately 10 by 20 feet was treated in this demonstration.

FOOD HABITS RESEARCH

C. C. Sperry went to Austin, Tex., in the middle of June to make a survey of a body of water used as a city reservoir and to determine in what way it could be made more attractive to waterfowl.

FUR RESOURCES

Mr. Ashbrook visited during the month a large fox-breeding estate at North East, Pa., and also attended a meeting of the Wisconsin Fox Breeders' Association at Milwaukee and Wausau, Wisc.

D. Monroe Green spent several days early in the month at Saratoga Springs, N. Y., inspecting animals at the Experimental Fur Farm and conferring with Dr. Karl B. Hanson regarding the construction of a new building for rabbits and also plans for a number of hutches of an improved type. An experiment is to be started at the farm to ascertain the feasibility of raising rabbits in yards instead of hutches. Two large runways, to accommodate between 25 and 50 animals, are being constructed, and the stock will be kept in these yards for a full year. Mr. Green stopped in New York on his return to confer with a veterinarian of the Rockefeller Foundation who is conducting extensive experiments in rabbit diseases. Particular attention is being given to a disease called snuffles, with a view to discovering some remedy that may be used as a preventive and cure.

Four mimeographed circulars, Bi-880, "Breeders of Fancy Rabbits," Bi-881, "Breeders of Utility Rabbits," Bi-887, "Breeders and Purchasers of Guinea Pigs," and Bi-889, "Publications on Trapping," have been issued recently and copies may be had on request.

GAME AND BIRD RESERVATIONS

Mr. Goldman left on June 12 for Hot Springs, Ark., where he represented the Bureau at the Sixth National Conference on State Parks, June 14 to 16. While in Arkansas he visited Big Lake and Walker Lake Bird Reservations and inspected various other areas within the State to determine their suitability for bird refuges.

Frank Bond, chief clerk of the General Land Office of the Department of the Interior for the past 19 years, has been transferred to the Biological Survey, effective June 29, to make special investigations of Federal lands in connection with the establishment of the Upper Mississippi River Wild Life Refuge. Mr. Bond's long experience and service in the General Land Office have given him exceptional qualifications for this work, and in addition he is well known as an ornithologist and has long been interested in the conservation of the wild life of the country. As an official of the Bureau he will represent the Department on the United States Geographic Board, of which he has been chairman since the resignation of Dr. C. Hart Merriam, first chief of the Biological Survey. Mr. Bond began his government career in 1882 as a surveyor in Wyoming, and for a short time after coming to Washington served under the Department of Agriculture in connection with drainage investigations.

Most of the birds that frequent Lake Malheur Reservation, Oreg., were nesting early in June. In a recent trip around the refuge Warden Benson counted in one locality about 5,000 gulls (California and ring-billed), 30 Caspian terns, and one pair of glossy ibises, and saw one nest of night herons. The colony of pelicans on Pelican Island within the reservation has been destroyed by range stock and predatory birds and animals.

Warden L. L. Bryan, of Big Lake Reservation, Ark., reports that a number of wood ducks and doves are nesting on all parts of the refuge. With four assistants he has recently completed cutting a strip 8 feet wide around the west border of the refuge and blazing the trees along this strip.

A recent report from Warden Wesley D. Parker, of Sully Hill Game Preserve, N. Dak., states that four fine young Canada geese, brought there by their mother, are being raised in the bird yard at the preserve headquarters, where it is believed they will be more likely to thrive than out on the preserve. Thirty-two goldeneyes were counted recently on Sweetwater Lake within this preserve, but no young birds of this species have been seen there. Many young mallards, however, have been hatched.

The following number of buffalo calves have been reported at the various big-game preserves: Bison Range, 85, four of which have died; Wind Cave Preserve, 21; Niobrara Reservation, 14; Sullys Hill Preserve, 2. Elk calves and deer fawns have been noticed at the Bison Range but no count of these has been obtained. Two young antelope have been seen at Wind Cave Preserve.

Two young buffalo were shipped in May from the Bison Range, Mont., to the city park at Wadena, Minn.

Fred M. Dille, warden of Niobrara Reservation, Nebr., states that of the many ducks that wintered at the reservation, only three pairs of teal remained to nest.

A waterspout occurred on June 15 at Wind Cave Game Preserve, S. Dak., washing out three crossings of the game fence on Cold Springs Creek where there were no flood gates, and badly damaging the fence on the east and south sides. The warden succeeded in repairing some of the damage before

night, making the fence safe until more extensive repairs could be made to prevent the animals escaping. About 3 1-2 inches of water and hail fell in 15 minutes, and lightning set fire to several trees. A bunch of buffalo, coming down the creek, stampeded, when a bolt of lightning struck about 300 yards from them, and ran as far as could be seen in the opposite direction from the fence, thus preventing the possibility of their escape from the preserve through the fence. Several robins, one duck, and a few muskrats were the only birds and animals found dead.

IMPORTATIONS

There has been a noticeable increase recently in the importation of black bears from Canada. During the month from May 15 to June 15 permits were issued for the entry of 57 bears from Alberta, Manitoba, Ontario, and Quebec. These animals are intended for exhibition purposes and were consigned to 10 States from Massachusetts to California.

MIGRATORY-BIRD TREATY AND LACEY ACTS

Harold P. Sheldon, fish and game commissioner of Vermont, has been appointed chief United States game warden by Secretary Jardine to fill the vacancy caused by the resignation of George A. Lawyer. He will assume his duties early in July. The experience gained by Mr. Sheldon as State game commissioner of Vermont during the past five years well qualifies him for his new work. Before his appointment as State game commissioner Mr. Sheldon was an assistant editor of the Office of Publications of the Department of Agriculture at Washington. While in Washington after the war he studied law and took special courses at both Georgetown and George Washington Universities. He is author of many articles relating to fishing and shooting and the conservation of wild life. During the World War he served in France as first lieutenant in the 102d machine-gun battalion, and was later made captain. His services at the front were ended by a serious wound received in action, from which, however, he has fully recovered.

To assist Mr. Sheldon, Talbott Denmead will continue to serve as deputy chief United States game warden.

The first edition of the annual game-law poster, containing the open seasons for game during the season 1926-27, came from the press on June 23, and is now available for distribution.

Warden K. F. Roahen vouches for the following as a "true duck story," and not a "fish story": A wood duck built its nest in a tree in the school-yard located in the center of the town of Bath, Ill., and a few weeks ago hatched out eight little ones and several persons saw it march them down the main street to the river. One little duck was slightly hurt in falling from the tree, but was picked up and taken to the river and turned loose with the others.

Charged with the sale of three wild ducks, a resident of Hacksneck, Va., was arraigned in Federal court at Norfolk, Va., on May 13. He entered a plea of guilty and paid a fine of \$50. Evidence in the case was obtained by Wardens Bloxsom and Stevens.

For hunting ducks in Marion County, Mo., on February 21, a violator arraigned in Federal court at Hannibal, Mo., on May 24, entered a plea of guilty and was fined \$100. Another offender arraigned in the same court on the same date charged with killing and possessing wild ducks in the closed season paid a similar fine. Wardens Barmeier and Mrovka obtained the evidence in these cases.

Arraigned in Federal court at St. Louis, Mo., on June 1, a violator charged with killing a wild duck in St. Louis County on April 1, upon a plea of guilty was ordered to pay a fine of \$100.

Apprehended for hunting wild ducks on April 14, in Lucas County, Ohio, two offenders on arraignment in Federal court at Toledo, Ohio, on May 17, entered pleas of guilty and were each fined \$50 together with costs of \$13 each. Evidence was obtained by Wardens Charlton and Pomeroy.

If the imposition of a large fine will serve to lessen the killing of plume-bearing birds and traffic in the plumage thus obtained, there should be few violations of this character in Florida in the future. On May 31, in Federal court at Miami, a violator charged with the unlawful possession of 237 backs of the American egret and 17 backs of the snowy heron, entered a plea of guilty and was ordered by the court to pay a fine of \$450.

Each year there is an increased cost for hunting wild ducks after sunset on the Potomac River. A violator arraigned on this charge in Federal court at Alexandria, Va., on June 7, upon a plea of guilty was fined \$50. One other offender arraigned on the same date on a similar charge received a suspended sentence of one year during good behavior.

A case of unusual interest was recently unearthed by Federal Game Warden Bertrand E. Smith, at Lubec, Me., involving the possession and sale of eggs of gulls on June 10, 1925. Evidence was obtained showing that the accused sold 11 1/2 dozen and had on hand approximately 100 dozen gull eggs. Federal prosecution of the offender has been recommended.

United States Game Warden John Q. Holmes, of Orleans, Nebr., recently obtained evidence against a person residing at Wilcox, Nebr., that during April, 1926, he traded a box of shotgun shells for a sandhill crane. He was arraigned in State court on May 21, charged with purchasing a wild bird, entered a plea of guilty, and paid a fine of \$100 together with costs.

W. R. Dillon went to Pleasantville, N.J., on June 17 to confer with Warden P. K. Hilliard in regard to matters pertaining to the enforcement of the migratory-bird treaty act.

Cases Terminated - - Reports Received during May

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier	1	Missouri	Killing ducks in close season	\$100
Barmeier, Mrovka*	1	"	Possessing ducks in close season	\$100
" "	1	"	Hunting ducks in close season	\$100
Bloxsom, Stevens**	1	Virginia	Selling ducks	\$50
Brown*	1	Alabama	Killing woodpeckers	\$10
Charlton, Pomeroy**	2	Ohio	Shooting at ducks in close season	\$50 each and costs of \$13 each
Hoffman, Doggrell*	5	Alabama	Killing doves in close season	\$10 each and costs
Hoffman, Moody**	1	"	Killing doves in close season	\$10 and costs
Hoffman, Moody, and Armstrong**	1	"	Hunting doves in close season	\$10 and costs
Holland*	1	Louisiana	Selling ducks	\$10
Holmes	2	Missouri	Hunting ducks after sunset	\$1 each
Pacetti	1	Florida	Possessing plumage of egrets	\$450
Pingley, Creighton*	1	Virginia	Hunting ducks after sunset	\$50
Roahen, Fidler*	2	Illinois	Possessing wood ducks	\$5 each and costs of \$10.17 each
" "	1	"	Possessing wood ducks	\$15 and costs of \$15.61
Roahen, Scholler*	1	Iowa	Possessing ducks in storage in close season	\$10
Shaver	1	Minnesota	Hunting ducks after sunset	\$10
Smith	1	Maine	Selling ducks	\$5
Stukel*, Hall**	2	Minnesota	Hunting ducks after sunset	\$25 each
Tonkin	1	California	Hunting ducks after sunset and hunting killdeers	\$25
Hoffman, Obscur*	1	Louisiana	Selling ducks	\$10

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barmeier	1	Missouri	Hunting ducks in close season
"	2	"	Killing ducks in close season
"	1	"	Possessing a goose in close season
"	2	"	Shooting at geese in close season
Barmeier, Heller*, Creech*	2	"	Possessing and transporting ducks in close season
Barmeier, Heller*, Creech*, and Ferrier*	2	"	Possessing and transporting ducks in close season
Barmeier	2	Kansas	Hunting ducks in close season

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Brown*	1	North Dakota	Possessing a goose in close season
Bunney*, Holmes	1	Nebraska	Killing a goose in close season
Charlton, Pomeroy**	2	Ohio	Shooting at ducks in close season
Creech*, Riedinger*	1	Missouri	Shooting at ducks in close season
Creech, Ferrier*	1	"	Hunting ducks in close season
Ferrier*	1	"	Hunting ducks in close season
Fleming*	2	Indiana	Hunting ducks in close season
Fleming, Bravy**, Johnson**	1	"	Possessing a duck in close season
Fleming, Roth**, Randall**	1	"	Hunting ducks in close season
Jankowski*	1	Illinois	Killing a duck in close season
Kelsey	1	South Dakota	Possessing a loon
Riddick	1	Texas	Killing sandpipers
"	1	"	Possessing sandpipers
Schroer*	1	Missouri	Shooting at ducks in close season and from a motorboat
Shaver, Raeth*	1	Wisconsin	Possessing woodpeckers and one killdeer
Smith, Foley*	1	Maine	Killing a duck in close season
Steele*	2	Missouri	Possessing ducks in close season
Stukel**, Shaver	2	Minnesota	Shooting at ducks after sunset
Whitehead	2	Georgia	Killing robins
"	6	"	Killing doves in close season

* U. S. Deputy Game Warden

** Deputy State Game Warden

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THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE

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No. 7

GENERAL NOTES

Doctor Nelson left Washington on July 11 for Iowa and Minnesota, to hold conferences with the Governor and the State game warden of Iowa and others in connection with the administration of the Upper Mississippi River Wild Life and Fish Refuge. He also made an inspection trip of the refuge, from Davenport, Iowa, to Wabasha, Minn., a distance of about 300 miles. The trip was made in the Bureau of Fisheries' swift power-boat Mallard with H. L. Canfield, representing the Bureau of Fisheries, which is united with the Biological Survey in the administration of this refuge. W. T. Cox, superintendent of the refuge, with Rudolph Dieffenbach, land valuation engineer, and S. B. Hall, attorney, all of the Biological Survey, with headquarters at Winona, accompanied Doctor Nelson on the trip in order that all phases of the work of purchasing lands for the refuge and their administration might be discussed along the way. The weather was reported pleasant and the scenery beautiful. As a result of the trip Doctor Nelson is convinced that there is opportunity there for doing a great work in wild-life conservation, and states that the people all along the route expressed deep interest in the development of the refuge. Among the most interesting features of the trip were the observations made on the many islands, aggregating about 15,000 acres, still owned by the Federal Government in the Mississippi River within the limits of the refuge and made part of it by executive order. Most of them are wooded and add greatly to the picturesque beauty of the river within this great refuge.

Dr. C. H. Edmundson, professor of zoology in the University of Honolulu and zoologist of the Bishop Museum of Honolulu, visited the Bureau on July 27. He was introduced in the various offices by Dr. W. B. Bell, a former classmate. Doctor Edmundson is making a trip around the world studying museum organization and administration and zoological problems generally.

Messrs. G. F. Simmons, W. K. Cuyler, and Young, members of the South Atlantic Expedition of the Cleveland Museum of Natural History, which returned to Charleston, S. C., on June 4, visited offices of the Bureau on July 6. They have been spending the past two and a half years collecting biological specimens from the museum's schooner Blossom in South American countries.

A complete list of the personnel of the Biological Survey, with addresses, is given in this number of THE SURVEY beginning on page 10.

Mrs. A. B. Morrison and Dr. and Mrs. T. S. Palmer spent the last week in July on vacation at Cape May, N. J.

E. J. Cohan, of the Office of Accounts, has returned from a vacation spent with his sister at Rock Island, Ill.

Thos. E. Jacoby, of the Administration Office, and Mrs. Jacoby spent several days in the early part of June on a motor trip to Allentown and other points in Pennsylvania.

Manuscripts have been submitted for outside publication as follows:

Gabrielson, Ira N. "Some of Oregon's Predatory Birds."
Jewett, Stanley G., and Ira N. Gabrielson, "Birds of the Portland Area."
Lincoln, Frederick C. "Death of Young Phoebe Due to Overfeeding."
McAtee, W. L. "Natural Enemies of Insects in the Philippines."
McAtee, W. L., and J. R. Malloch. "On Megaridinae and Canopinae (Hemiptera Pentatomidae)."
Mullins, W. A. "A Week with a Government Hunter."
Oberholser, Harry C. "June and July Birds About Washington."
Poole, Charles G. "Bobcats."

The following radio talk was delivered on July 26:

Young, Stanley P. "A Brief Synopsis of the Work of the Biological Survey," from Station KOA, Denver, Colo.

BIOLOGICAL INVESTIGATIONS

F. C. Lincoln has been located in the marshes at the mouth of Jordan River, near Salt Lake City, Utah, since June 29, engaged in banding ducks and other waterfowl on the extensive breeding grounds there. A preliminary survey of the situation indicates that he will divide his time between the Jordan River and the Bear River marshes. Conditions regarding numbers of birds are favorable, but the rank growth of water plants makes their capture a matter of some difficulty. Molting had begun early in July, and young birds were abundant. Some birds suffering from alkaline poisoning were found, but no other malady was in evidence. During the first few days more than 300 ducks were banded. Efforts will also be made to band other species, including white pelicans.

Dr. W. P. Taylor, stationed at Tucson, Ariz., in company with a plant ecologist of the Carnegie Institution, inspected the rodent experimental areas early in June. Following this they attended a conference at Albuquerque, N. Mex., held to insure closer cooperation between organizations interested in attacking problems growing out of the effect of animal and plant life on agriculture, forage maintenance, and forestry, especially in the Southwest.

T. H. Scheffer, of Puyallup, Wash., during June made many observations on the life habits of the smaller ground squirrels of his region and on the small rodents that live partly in the runways of the moles.

Vernon Bailey left Washington on July 3 for Yellowstone Park, Wyo. He expects to spend a month or more with members of the Sierra Club of San Francisco assisting in their studies of wild life.

The Fidelis Committee, consisting of the women of Biological Investigations, which organized on January 14, 1926, for the purpose of furthering the work of the Division by gaining a more comprehensive knowledge of its various activities and their relation to the Bureau as a whole, held its last meeting before adjournment for the summer on July 15. Officers were elected to serve for six months following the convening of the Committee in October. Mrs. Viola Snyder was chosen chairman and Miss Ruth Richards secretary.

John M. Holzworth and Lee Parsons Davis, of New York City, left on July 27 for a hunting and exploring trip to the Rocky Mountains south of the Peace River Pass, British Columbia, where they will collect specimens for the Biological Survey. This region, which has been twice visited by Mr. Holzworth, is particularly interesting from the fact that it is the meeting or intergrading ground for different forms of mountain sheep and caribou, specimens of which are especially desired for the Biological Survey collections.

ECONOMIC INVESTIGATIONS

A. W. Moore, junior biologist in Oregon, has completed his college work and reported for duty the first part of June. One of the problems arising in Oregon this month was the infestation of the new arboratum at Corvallis by Peromyscus, which were destroying the pine seeds. Rolled oats, melon seeds, and walnut meats were tried as baits. The walnut meats gave the best results and the damage is reported stopped.

Just a year ago work was started in training section crews under the direction of T. N. Gabrielson, leader of rodent control in Oregon, of the Southern Pacific Railroad in Oregon, in the control of pocket gophers along right of ways. Last summer A. W. Moore, assistant in rodent control, visited every section crew on the Southern Pacific lines in the Willamette Valley and gave demonstrations in the use of clover poison. Southern Pacific engineers report that strychnine is now furnished to section crews just as are all other supplies and that they have obtained excellent results. There has been a marked decrease in the track-leveling work necessary since the cleaning-up of the pocket gophers and similar methods of control in other sections of the railroad will be attempted.

Leo K. Couch, leader of rodent control in Washington, has made a survey of eight farms on Bush Prairie, Thurston County, to check up on pocket-gopher damage. Farmers reported losses ranging from \$50 to \$1,000, and a number of trapping demonstrations were given to render immediate relief where the pocket gophers were taking truck crops. As a result of a demonstration on a fruit ranch south of Olympia 50 pocket gophers were trapped, each one taken where damage was evident. In the nursery more than 100 raspberry plants had been destroyed.

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During the past year the work of Chas. G. Poole, leader in predatory-animal control in California, has been very successful in renewing confidence among stockmen in the intensive operations that have been carried on in their counties. Mendocino County shows an increase in the sheep ranged over the number two years ago, of from 50,000 to 80,000, because of the reduced coyote menace, and it is thought that it can be reduced still further and kept down to a minimum.

Hunter Roy Goyn, of Colorado, during the latter part of May was successful in taking a small bear that had been ranging between East and West Muddy Creeks. Examination of the stomach contents disclosed at least one dozen blue-grouse eggshells, besides a quantity of sheep meat and wool.

Hunter Frank Robeson, of Oregon, assisted by Reservation Warden G. M. Benson, has been detailed to clean up the ravens and other predatory birds and animals on Malheur Lake Bird Reservation. These birds destroy annually untold thousands of eggs and newly hatched young of ducks, geese, and other waterfowl. During June 524 of these predators were killed on or adjacent to the reservation.

While on a field trip in Lawrence County, S. Dak., Louis Knowles, leader of predatory-animal control in that State, was informed by the superintendent of the United States Trout Hatchery, at Spearfish, that during the past two years woodchucks had been coming down during the heat of the summer to a spring that supplies water to some of the hatching and rearing troughs and so fouling and roiling the water that it caused considerable loss of trout fry. Mr. Knowles placed two poison boards containing salt and coyote poison on a rim-rock ledge, and in two days 29 dead woodchucks were counted. A small supply of the poisoned salt was left with the superintendent, and Mr. Knowles has since received a note saying that all danger from woodchucks had been ended for this season.

Sears M. Willis was successful during the early part of the month in cleaning up the remainder of the wolf pack along the Arizona-Utah line mentioned in last month's SURVEY. The old male was caught in a trap on June 6, and two more pups were killed with poison. It was found on examining the old wolf that it had lost part of one of its feet in a trap.

FOOD HABITS RESEARCH

Mr. McAtee visited during the month a country home at Cleveland, Ohio, where considerable success has been had in the propagation of waterfowl. Equipment and methods were studied and photographs taken.

C. C. Sperry went to Winona, Minn., to inaugurate the season's wild-luckfood surveys on the Upper Mississippi River Wild Life Refuge and on the lakes of Minnesota. Francis M. Uhler has been detailed from the Washington office to work with Neil Hotchkiss on the refuge, and Warren N. Keck and Charles F. Stilwill will continue surveys of Minnesota lakes in southeastern counties of the State.

Norman K. Bigelow, formerly of the University of Toronto, has been given a temporary appointment for the summer months to work on the files of the Division.

FUR RESOURCES

Mr. Ashbrook and Dr. Karl B. Hanson addressed the students of the Rusch Fox Breeding School, at North East, Pa., on June 22 and 23. Doctor Hanson spoke on the importance of sanitation and prevention of disease, and Mr. Ashbrook on practical fur farming.

Mr. Ashbrook, on June 26, inspected six fox ranches in Wisconsin, the largest silver-fox enterprise in the world, representing an investment of more than \$3,000,000. During the 1926 breeding season 1,834 pairs of foxes on these ranches raised 7,400 pups, an average of more than 4 pups to the litter. On June 29, he went to Wausau, Wis., where he spoke at the summer school of the Wisconsin Fox Breeders' Association. More than 400 fox farmers were attending the session.

D. Monroe Green spent several days in New York during the week of July 12, assisting officers of the National Rabbit Federation and the Rabbit Breeders' Exchange in investigating market conditions and arranging for the sorting, grading, and sale of a large shipment of rabbit skins from the Pacific coast. Prices for rabbit skins are higher than earlier in the year but on account of the cloak makers' strike in New York City, all raw furs are moving slowly and buying is not active. Accompanied by Dr. Benjamin Schwartz of the Bureau of Animal Industry, and the president of the National Rabbit Federation, Mr. Green conferred with scientists of the Rockefeller Institute relative to snuffles and coccidiosis, which are causing heavy mortality among rabbits.

GAME AND BIRD RESERVATIONS

On recommendation of the Secretaries of Agriculture and the Interior, the creation of a new bird reservation, to be known as the Johnston Island Reservation, was authorized by the President by order of June 29, 1926, for the protection of native birds on two small islands in the Pacific Ocean, about 500 miles south of the Hawaiian Islands Reservation. The new reservation is named for the larger of the two, which is about half a mile long and a quarter of a mile wide. The smaller, Sand Island, is about half as large. From time immemorial these islands have been the breeding grounds for thousands of waterfowl. When a former lease on the islands expired, the Governor of Hawaii pointed out that because they were now available, a bird reservation should be created.

Congratulations are extended to Mr. and Mrs. Almer P. Nelson on the birth of a daughter on July 15. Mr. Nelson is warden of the Elk Refuge at Jackson, Wyo.

The dry spring and increased forage cover on the Bison Range have been beneficial to the game birds there. Many large coveys of Chinese pheasants, blue grouse, and sharp-tailed grouse, two coveys of

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Hungarian partridges, and one of quail have been seen. The quail appeared for the first time at the Range this spring and have apparently nested there. Ducks also are unusually plentiful.

A buffalo calf, the mother of which died in the feeding pens, is being raised at headquarters at the Bison Range. Eight elk are being held on a portion of the range where the warden will have the opportunity to observe the extent to which they feed on certain plants.

The nesting colonies of birds at Lake Malheur Bird Reservation, Oreg., have been handicapped by low water, which permits the enemies of the birds to approach the eggs and young. The large gull colony has deserted this refuge and gone to a swamp about five miles north. Many young ducks and coots have been dying at Lake Malheur Reservation from a sickness similar to that which killed great numbers at this refuge last fall.

More than 3,000 persons crossed Wind Cave National Park, within which is located Wind Cave Game Preserve, S. Dak., on July 4. This is the largest number that had ever visited the Park in one day. A large number of visitors also passed through on July 5.

A cloudburst occurred at the Wind Cave Preserve on July 8 and destroyed two sections of the fence south of the Cave in the Park and badly damaged the game fence on Cold Springs Creek. The warden, with a force of assistants, succeeded in making the fence safe late the next day. One buffalo escaped to the outside of the inclosure for a short time.

The long period of dry weather at the Elk Refuge has greatly retarded the growth of forage not under irrigation, but it is believed that the irrigated hay lands will yield an average crop. Warden Almer P. Nelson spent a week in June on the Teton Game Preserve, where he assisted rangers of the Forest Service in tagging elk calves. This work is being done in order to obtain information relative to migratory movements of the elk.

U. S. Game Warden, B. J. Pacetti reports that Bird Key of Tortugas Keys Bird Reservation, Fla., is fast washing away. He found the refuge, however, covered with terns, the majority of which were noddy terns. Warden Bethel states that there has been a notable increase in the birds at this refuge this year.

A female white-tailed deer, about ten years old, and for some years the only animal of that species at Sullys Hill Game Preserve, N. Dak., died there recently. About 30 young mallards and 50 young goldeneyes are reported on Sweetwater Lake within this preserve.

Warden Frank H. Rose reports that the water level has been held nearly constant in Nine Pipe Bird Reservation, Mont., this summer, and as a result cat-tails and dock have grown up around the edge to a considerable extent, and much more duck food is in evidence. Coots are numerous, with young from a few days to two or three weeks old, averaging two to five young to the pair. Ducks, particularly mallards and blue-winged teal, are numerous with large broods of young. Several hundred grebes and terns nested on Nine Pipe during the season; sandpipers and killdeer were seen, but shorebirds are not numerous.

Walter W. Spaulding has been appointed assistant reservation warden and U. S. deputy game warden at Blackboard Island Bird Reservation, Ga.

Elton C. Hotchkiss, clerk in the Winona office, Upper Mississippi River Wild Life and Fish Refuge, visited the Washington office early in the month.

MIGRATORY-BIRD TREATY AND LACEY ACTS

H. P. Sheldon, newly appointed chief United States game warden, reported for duty on July 14. Mr. Sheldon left Washington on July 28, for points in Texas to conduct oral examinations of eligibles for the position of United States game warden who passed the written civil-service examination held in December, 1924.

Federal Game Warden Kenneth F. Roehen, of Peoria, Ill., spent several days in the Washington office during the latter part of July.

Warden W. H. Ransom, of Spokane, Wash., conducted a division exhibit at the 7th annual National Sportsmen and Tourists' Fair, at Spokane, from June 23 to 26. He reports that of a total of more than 32,000 persons who paid admission to the fair, great numbers expressed interest in the exhibit. Several thousands of circulars and pamphlets relative to the work of the Bureau were distributed.

Reports reached the Bureau about the middle of July that thousands of martins had established obnoxious roosts in and near Newport, Ark. The townspeople desired to kill the birds, but upon the advice of the Bureau, U. S. Deputy Game Warden Harrie recommended other methods of control, as turning the fire hose on them, shooting Roman candles through trees after dark, hanging bright or noisy objects in trees, or using blank black-powder shotgun shells. The Newport city officials showed a spirit of cooperation, and the remedies suggested were tried with excellent success. After clearing up the situation in Newport, Mr. Harris proceeded to Cotton Plant and Brinkley, Ark., and other points in that section, to recommend similar methods against objectionable bird roosts.

Ten persons charged with violating the migratory-bird treaty act by hunting wild ducks after sunset were arraigned during the May term of Federal court at Aberdeen, S. Dak. All entered pleas of guilty and each was fined \$25. The cases were obtained by Federal Game Warden Kelsey.

Warden P. K. Hilliard, of Pleasantville, N. J., was rather seriously injured in an automobile accident on July 14.

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Federal court at Springfield, Ill., was the scene of much activity on June 22 and 23, as far as the prosecution of migratory-bird treaty-act cases was concerned, when 33 offenders were arraigned. One case was disposed of by a plea of nolo contendere and the others by pleas of guilty. A fine of \$15 in each case was assessed, together with costs totaling \$675. Warden K. F. Roehen obtained the evidence in 18 of the cases, Deputy Game Warden Mrovka, 6, and the remainder were distributed among Warden O. D. Steele and Deputies Blackwell, Scholler, and Mostel. The offenses consisted of hunting wild ducks after sunset, selling ducks, and hunting during the close season.

Mrs. Jennie M. Whippo, clerk in this Division, was on extended leave during the month visiting her parents in Pennsylvania.

Cases Terminated - - Reports Received During June

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Blackwell*	1	Illinois	Selling ducks	\$15 and costs o \$61.33
"	1	"	Selling ducks	\$15 and costs o \$28.15
Hampo*	1	Texas	Selling ducks	\$50 and a 3- months sus- pended jail sentence
Hoffman, Doggroll*	1	Alabama	Killing doves in close season	\$10
Hoffman, Moody*	1	"	Killing doves in close season	\$10
Hoffman, Obscur*	1	Louisiana	Selling ducks	\$10
" "	1	"	Selling ducks	\$25
Kelsey	13	S. Dakota	Hunting ducks after sunset	\$25 each
"	1	" "	Possessing a loon	\$10
"	1	" "	Possessing ducks in storage in close season	\$10
Mostel*	2	Illinois	Hunting ducks after sunset	\$15 each and costs
Mrovka*	6	"	Hunting ducks after sunset	\$15 each and cos
Riddick	1	Texas	Selling sandpipers and snipe	\$50 and a sus- pended jail sentence of 3 months
"	1	"	Selling ducks	\$100
Roehen	1	Illinois	Possessing wood ducks	\$25 and costs
"	4	"	Hunting ducks after sunset	\$15 each and cos
"	14	"	Possessing ducks in storage in close season	\$15 each and costs

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<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Roehen, Hahn**	1	Illinois	Possessing ducks in storage in close season	\$15 and costs
Scholler*	1	"	Possessing ducks in storage in close season	\$25
Steele, O. D.	1	"	Hunting ducks in close season	\$15 and costs
Steele, Roehen	1	"	Hunting ducks in close season	\$15 and costs
Steele, R. C.	2	Washington	Hunting ducks after sunset	\$20 each
Shaver, Moore**	1	Minnesota	Possessing ducks in storage in close season	\$10
Shaver, Stuklo**	1	"	Hunting ducks after sunset	\$5

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barnesier	1	Missouri	Hunting ducks in close season
Riddick	1	Texas	Selling sandpipers and snipe
"	1	"	Selling ducks
Smith	1	Maine	Selling gull eggs
Whitehead	9	Georgia	Killing doves in close season
"	9	"	Possessing doves in close season

* U. S. Deputy Game Warden

** Deputy State Game Warden

PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY

(Unless otherwise specified, addresses are Washington, D. C.)

GENERAL ADMINISTRATION

Dr. E. W. Nelson, chief of bureau
W. C. Henderson, assistant chief of bureau
Mrs. A. B. Morrison, assistant to chief of bureau
Thos. E. Jacoby, secretarial clerk

OFFICE ADMINISTRATION

E. J. Thompson, in charge, business operations
Elizabeth M. Olmsted, stenographer-clerk

Accounts

E. J. Cohnan, in charge
Guy W. Lane, auditor and acting in charge
Anna Montgomery, senior auditor
Edith J. Smith, allotment clerk and auditor
Mamie S. Crow, head bookkeeper
Mrs. Jessie M. Stabler, bookkeeper
J. E. D. Milton, auditor and assistant bookkeeper
Mrs. Mary E. DeKnight, stenographer

Property

A. P. Weinorth, in charge
E. J. Down, assistant property clerk

Mails and Files

Hyman Liebman, in charge
Philip S. McCubbin, mail clerk
Rosa E. J. Koch, file clerk
Russell H. Carpenter, messenger
Raymond Watson, messenger
D. Alan Dryer, messenger

Custodial (Quarters) Service

Mary H. Hopkins
Elva E. Plater
Dora B. Wilkins

MANUSCRIPTS AND PUBLICATIONS

W. H. Choosman, editor
Paul H. Ochsner, editorial clerk
W. F. Bancroft, in charge of distribution and photographs
Nelson H. Kent, photographer
Roberta M. Taylor, typist and photograph file clerk

DIVISION OF GAME AND BIRD RESERVATIONS

Edward A. Goldman, biologist in charge
Lisle Morrison, assistant
Frank Bond, administrative assistant
Clara Ruth, stenographer-clerk
Ethel N. Jett, stenographer

BIG-GAME PRESERVES

Nebraska: Niobrara Reservation

Fred M. Dille, warden, Valentine

North Dakota: Sullys Hill National Game Preserve

Wesley D. Parker, warden, Fort Totten

Montana: National Bison Range

Frank H. Rose, warden, Moiese
H. H. Hoyt, assistant warden, Moiese
Mrs. Irene B. Kinney, clerk, Moiese

South Dakota: Wind Cave National Game Preserve

A. P. Chalmers, warden, Hot Springs

Wyoming: Elk Refuge

Almer P. Nelson, warden, Jackson

BIRD REFUGES

Arkansas: Big Lake Reservation

L. L. Bryan, warden, Hornersville, Mo.

Florida:

Mosquito Inlet Reservation

B. J. Pacetti, warden, Ponce Park

Tampa Bay Group

H. P. Bennett, warden, Box 215, R. D. No. 1, St. Petersburg

Tortugas Keys and Key West Reservations

Ludwig Bethel, warden, 1401 Newton Street, Key West

DIVISION OF GAME AND BIRD RESERVATIONS--ContinuedBIRD REFUGES--ContinuedGeorgia: Blackbeard Island Reservation

*Howard E. Coffin, warden, Sapelo
*John F. Casey, assistant warden, Sapelo
Walter W. Spaulding, assistant warden, Sapelo

Hawaii: Hawaiian Islands Reservation

Gerrit P. Wilder, warden, 1930 Ualakaa Street, Honolulu

Idaho: Minidoka Reservation

**C. F. Gleason, warden, Rupert

Montana:Nine Pipe Reservation

**C. H. Dexter, warden, Ronan

Pablo Reservation

**F. C. Mayer, warden, Pablo

Willow Creek Reservation

**M. C. Marvin, warden, Gilman

Nebraska: North Platte Reservation

**W. R. Jones, warden, Minatare

New Mexico: Carlsbad Reservation

**L. E. Foster, warden, Carlsbad
**Henry C. Holcomb, assistant warden, Lakewood
**J. P. Middleton, assistant warden, Carlsbad

Oregon: Lake Malheur Reservation

L. E. Hibbard, supervisor, Burns
George M. Benson, warden, Voltage

South Dakota: Belle Fourche Reservation

George M. Wilson, warden, Belle Fourche

Notes:

*Cooperative warden.
**Cooperative warden,
Reclamation Service
employee.

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DIVISION OF GAME AND BIRD RESERVATIONS--Continued

Utah: Strawberry Valley Reservation

**W. L. Whittmore, warden, Provo

Washington: Conconully Reservation

**Chas. M. Conger, warden, Conconully

UPPER MISSISSIPPI RIVER WILD LIFE AND FISH REFUGE (Hdqs. Federal Building, Winona, Minn.)

W. T. Cox, superintendent
Rudolph Dieffenbach, land valuation engineer
Stanley B. Hall, attorney
C. R. Hallowell, land valuation assistant
Otto E. Mueller, land valuation assistant
Robert M. Rutherford, forester
Harold W. Hicks, junior forester
Chalmer Jackson, transitman
Elton C. Hotchkiss, senior clerk
Melba A. Batdorf, stenographer
Mabel A. McCann, stenographer

DIVISION OF ECONOMIC INVESTIGATIONS

Dr. A. K. Fisher, senior biologist, in charge
Dr. W. B. Bell, biologist
Elmer R. Scholl, stenographer
Charlotte C. Watson, stenographer-clerk
Mrs. Helen C. Wood, typist-clerk

ERADICATION METHODS LABORATORY

Stanley E. Piper, associate biologist, in charge 305 Railroad Bldg., Denver, Colo.
F. E. Garlough, associate biologist, 211 Post Office Bldg., Berkeley, Cal
E. E. Horn, assistant biologist, 305 Railroad Bldg., Denver, Colo.
H. E. Williams, assistant biologist, 305 Railroad Bldg., Denver, Colo.
H. L. Jones, clerk, 305 Railroad Bldg., Denver, Colo.
B. F. Lowery, skilled laborer, 305 Railroad Bldg., Denver, Colo.

THE SURVEY

July, 1926

DIVISION OF ECONOMIC INVESTIGATIONS--Continued

RODENT CONTROL

Eastern United States District

James Silver, leader
E. W. Jarvis, assistant biological aid
E. M. Mills, junior biologist (on detail in Washington, D. C.)
G. C. Oderkirk, junior biologist, Purdue University, Lafayette, Ind.

Arizona

D. A. Gilchrist, leader, Box 765, Phoenix
B. E. Foster, junior biologist, Tucson
L. H. Davenport, clerk, Box 765, Phoenix

California

Joseph Keyes, leader, 1015 L. Street, Sacramento
H. G. Hansen, junior biologist, San Jose
Hannah C. Higginbottom, clerk, 1015 L. Street, Sacramento

Colorado--305 Custom House, Denver

L. L. Laythe, leader
D. D. Green, junior biologist
Idella Ustrud, clerk

Idaho

W. E. Crouch, leader, Box 13, Boise
T. B. Murray, junior biologist, Box 602, Pocatello
P. T. Quick, clerk, Box 602, Pocatello

Kansas--Extension Division, State Agricultural College, Manhattan

A. E. Oman, leader
Roy Moore, assistant biological aid
Esther D. Baldwin, clerk

Montana--Extension Division, State College of Agriculture, Bozeman

O. E. Steph. leader
E. C. Cates, junior biologist

DIVISION OF ECONOMIC INVESTIGATIONS--Continued

RODENT CONTROL--Continued

Nevada--450 Gazette Bldg., Reno

E. R. Sans, leader
E. B. Richards, assistant biologist

New Mexico--313 1/2 West Central Avenue, Albuquerque

A. E. Gray, leader
J. C. Gatlin, assistant biological aid
E. J. Melton, junior biologist
Edward Edgington, junior biologist
Wanna M. Kintzley, clerk

Oregon--515 Post Office Bldg., Portland

Ira N. Gabrielson, leader
Roy Fugate, junior biologist
A. W. Moore, junior biologist
Adelaide D. King, clerk

South Dakota--265 Post Office Bldg., Rapid City

H. R. Wells, leader
Sue C. Platt, clerk

Texas--422 Oppenheimer Bldg., San Antonio

L. C. Whitehead, leader
M. M. Smith, clerk

Utah--204 Atlas Bldg., Salt Lake City

R. Scott Zimmerman, leader
A. L. Bridenstine, junior biologist
John T. Paradise, clerk

Washington

Leo K. Couch, leader, State Capitol, Olympia
John Finley, junior biologist, Puyallup
Deborah Williams, clerk, State Capitol, Olympia

Wyoming--Extension Division, College of Agriculture, University of Wyoming, Laramie

A. M. Day, leader
G. W. Boyd, junior biologist
A. S. Hamm, field assistant
George L. Colwell, agent
Roberta Manlove, clerk

THE SURVEY

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THE SURVEY DIVISION OF ECONOMIC INVESTIGATIONS--Continued

PREDATORY-ANIMAL CONTROL

General Field Operations

J. Stokley Ligon, supervisor, Fort Stockton, Tex.

Arizona--Box 765, Phoenix

M. E. Musgrave, leader

L. H. Davenport, clerk

California--1015 L. Street, Sacramento

Charles G. Poole, leader

R. K. Stewart, assistant

William E. Polson, assistant

Hannah C. Higginbottom, clerk

Colorado

Stanley P. Young, leader, 505 Custom House, Denver

J. W. Crook, assistant, Monte Vista

George M. Trickel, assistant, Montrose

Idella Ustrud, clerk, 305 Custom House, Denver

Idaho

L. J. Goldman, leader, Box 416, Gooding

Samuel Driggs, administrative assistant, Shoshone

Leo S. Twitchell, administrative assistant, Dubois

Illinois

C. E. Gillham, cooperative agent in charge, Pittsfield, Ill.

Montana--Box 1251, Billings

R. E. Bateman, leader

Florence U. Stewart, clerk

Nevada

E. R. Sans, leader, 450 Gazette Bldg., Reno

A. L. Rasmussen, administrative assistant, Ely

Edna Thomas, clerk, 450 Gazette Bldg., Reno

New Mexico--313 1/2 West Central Avenue, Albuquerque

E. F. Pope, leader

E. L. Pineau, administrative assistant

W. A. Mullins, administrative assistant

Wanna M. Kintzley, clerk

July, 1926

DIVISION OF ECONOMIC INVESTIGATIONS--ContinuedPREDATORY-ANIMAL CONTROL--ContinuedOregon--515 Post Office Bldg., Portland

Stanley G. Jowett, leader
Elmer Williams, administrative assistant
E. S. Hoyle, clerk

South Dakota and Nebraska

Louis Knowles, leader, 265 Post Office Bldg., Rapid City, S. Dak.
Clyde F. Briggs, junior supervisor, Chamberlain, S. Dak.
Sue S. Platt, clerk, Rapid City, S. Dak.

Texas

C. R. London, leader, 422 Oppenheimer Bldg., San Antonio
O. E. Coleman, administrative assistant, Canyon
M. N. Smith, clerk, 422 Oppenheimer Bldg., San Antonio

Utah--204 Atlas Bldg., Salt Lake City

G. E. Holman, leader
Edward Rasmussen, administrative assistant
John T. Paradise, clerk

Washington--State Capitol, Olympia

Dr. Glen R. Bach, leader
H. W. Dobyns, administrative assistant
Deborah Williams, clerk

Wyoming

G. J. Bayer, leader, State Capitol, Cheyenne
H. F. Williams, administrative assistant, 38 West Brundage
Street, Sheridan
E. M. Muse, clerk, State Capitol, Cheyenne

DIVISION OF FUR RESOURCES

Frank G. Ashbrook, biologist in charge
D. Monroe Green, assistant in rabbit investigations
Dr. Karl E. Hanson, in charge of Experimental Fur Farm, Saratoga
Springs, N. Y.
B. M. Arnold, cooperator, National Association of the Fur Industry, N.
Elsie Galloway, stenographer-clerk
Mrs. Grace Marshall, clerk-typist

DIVISION OF FOOD HABITS RESEARCH

W. L. McAtee, economic ornithologist in charge
Elsie V. Beale, laboratory assistant
Frederick H. Mohlman, stenographer

RELATION OF NATIVE AND INTRODUCED BIRDS AND OTHER ANIMALS TO AGRICULTURE

E. R. Kalmbach, economic ornithologist
Remington Kellogg, economic ornithologist and herpetologist
J. R. Malloch, entomologist
C. C. Sperry, economic ornithologist
H. L. Buchanan, coleopterist, in charge of files
F. M. Uhler, economic ornithologist
Norman K. Bigelow, assistant (files)

INVESTIGATIONS OF MIGRATORY BIRDS

E. R. Kalmbach, economic ornithologist
C. C. Sperry, economic ornithologist
F. M. Uhler, economic ornithologist
Warren W. Keck, assistant in wild-duck food surveys
Charles F. Stilwell, assistant in wild-duck food surveys

COOPERATIVE QUAIL INVESTIGATION

H. L. Stoddard, in charge, Bouchton, Ga.
Charles O. Hendley, assistant, Thomasville, Ga.

UPPER MISSISSIPPI RIVER WILD LIFE REFUGE INVESTIGATIONS

Neil Hotchkiss, botanist
Norman C. Fassett, botanist

DIVISION OF BIOLOGICAL INVESTIGATIONS

Dr. H. H. T. Jackson, biologist in charge
Ethel M. Johnson, stenographer-clerk

INVESTIGATIONS OF WILD-ANIMAL LIFE

Edward A. Preble, biologist
A. H. Howell, biologist in charge of mammal collection
O. J. Murie, associate biologist, Fairbanks, Alaska
A. B. Howell, collaborator
E. C. Green, collaborator

DIVISION OF BIOLOGICAL INVESTIGATIONS--ContinuedINVESTIGATION OF WILD-ANIMAL LIFE--Continued

C. H. M. Barrett, taxidermist
Ernest B. Marshall, assistant taxidermist
May T. Cooke, scientific aid (bird records)
Mrs. Jane S. Elliott, scientific aid (draftsman)
Mrs. Viola S. Snyder, assistant scientific aid (mammal collection)
Emma B. Charters, clerk (mammal records)
Anna McDiffet, clerk (bird records)
Mrs. Blanche W. Mohlman, typist
John May, messenger

LIFE HABITS OF INJURIOUS ANIMALS

Dr. Walter P. Taylor, biologist, Tucson, Ariz.

BIOLOGICAL INVESTIGATIONS OF MIGRATORY BIRDS

Dr. Harry C. Oberholser, biologist
Frederick C. Lincoln, associate biologist (bird banding)
Mrs. Bessie W. Palm, stenographer
Myra A. Putnam, clerk (bird banding)
Ruth Richards, clerk (bird records)

FOOD HABITS OF INJURIOUS ANIMALS

Vernon Bailey, biologist
Theo. H. Scheffer, associate biologist, Fuyallup, Wash.

DIVISION OF MIGRATORY-BIRD TREATY AND LACEY ACTS

Harold P. Sheldon, chief United States game warden, in charge
Talbot Donald, deputy chief United States game warden
W. R. Dillon, senior administrative assistant
Frank L. Earnshaw, administrative assistant (game and fur
law publications and Lacey-Act investigations)
E. P. Callaghan, junior administrative assistant (migratory-
bird treaty-act investigations)
F. G. Grimes, clerk in charge of permits
Mrs. Jennie M. Whippo, stenographer-clerk
Mrs. Margaret B. Leonard, clerk
Mrs. Burnetta E. Muth, dictaphone operator
Mary O'Brien, stenographer-clerk
Eugenia M. Lane, stenographer

PROTECTION OF MIGRATORY BIRDS (United States Game Wardens)

Harry Bannier, 4947 Schollmeyer Avenue, St. Louis, Mo.
Wm. L. Birsch, Box 237, Norfolk, Va.
Thomas T. Bloxson, Locustville, Va.
B. R. Britton, Box 185, Socorro N. Mex.
M. A. Charlton, 2106 Summit Street, Columbus, Ohio
Philip S. Farnham, Owego, N. Y.
P. K. Hilliard, 31 Lorain Avenue, Pleasantville, N. J.
William H. Hoffman, Box 1022, Mobile, Ala.
John Q. Holmes, Orleans, Mebr.
Jay V. Kelsey, Box 654, Watertown, S. Dak.
S. W. Linebaugh, Russellville, Ky.
George E. Mushbach, Box 438, Billings, Mont.
B. J. Pacetti, Ponce Park, Fla.
John E. Perry, Box 301, Memphis, Tenn.
Webster H. Ransom, 708 West 20th Street, Spokane, Wash.
George M. Riddick, 1443 Alston Street, Houston, Tex.
Kenneth F. Roehen, Fey Hotel, Peoria, Ill.
B. J. Shaver, 456 Brainard Avenue, St. Paul, Minn.
Bertrand E. Smith, 31 Wolcott Street, Portland, Me.
Orin D. Steele, Box 351, Council Bluffs, Iowa
Ray C. Steele, 515 Post Office Bldg., Portland, Oreg.
George Tonkin, Box 395, Berkeley, Calif.
E. B. Whithead, Box 434, Thomasville, Ga.

INVESTIGATIONS OF MIGRATORY BIRDS

Dr. H. H. T. Jackson, biologist
(See Division of Biological Investigations)
W. L. McAtee, economic ornithologist
(See Division of Food Habits Research)

IMPORTATION OF FOREIGN BIRDS AND MAMMALS

Dr. T. S. Palmer, biologist, in charge

Importation InspectorsBaltimore, Md.

W. H. Fisher, Stock Exchange, Redwood Street

Honolulu, Hawaii

E. M. Ehrhorn, Box 2520

Los Angeles, Calif.

W. A. Bryan, Museum of History, Art, and Science

New York, N. Y.

B. S. Bowdish, Demarest, N. J.

W. DeWitt Miller, American Museum of Natural History, New York City

July, 1926

DIVISION OF MIGRATORY-BIRD TREATY AND LACEY ACTS--ContinuedIMPORTATION OF FOREIGN BIRDS AND MAMMALS--ContinuedPhiladelphia, Pa.

W. L. Bailey, 421 Chestnut Street

San Francisco, Calif.

Dr. H. C. Bryant, Museum of Vertebrate Zoology, Berkeley, Calif.

Joseph Dixon, Museum of Vertebrate Zoology, Berkeley, Calif.

Dr. Joseph Grinnell, Museum of Vertebrate Zoology, Berkeley, Calif.

H. S. Swarth, Museum of Vertebrate Zoology, Berkeley, Calif.

Margaret W. Wythe, Museum of Vertebrate Zoology, Berkeley, Calif.

DIVISION OF ALASKA INVESTIGATIONS

Chief of Bureau, in charge

REINDEER AND GRAZING INVESTIGATIONS

W. F. Bancroft, senior administrative assistant

L. J. Palmer, in charge reindeer grazing investigations, Fairbanks, Alaska

W. B. Miller, range examiner, Fairbanks, Alaska

PROTECTION OF GAME AND LAND FUR ANIMALS IN ALASKA

H. P. Sheldon, chief United States game warden

Ernest P. Walker, administrative officer for Alaska; also executive officer, secretary, and fiscal agent, Alaska Game Commission

(The other members of the Alaska Game Commission, appointed
by the Secretary of Agriculture and resident in Alaska,
are as follows:

C. T. Gardner, chairman, first judicial division, Juneau

Thomas D. Jenson, second judicial division, Nome

Dr. William H. Chase, third judicial division, Cordova

Dr. Preston S. Whitney, fourth judicial division, Fairbanks).

THE
END



THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
U. S. Department of Agriculture UNITED STATES DEPARTMENT OF AGRICULTURE

Vol. 7

Washington, D. C., August 31, 1926

No. 8

GENERAL NOTES

W. C. Henderson left Washington with his family on August 5 on a motor trip to Kennebunk Beach, Me., where they are spending several weeks' vacation. A. P. Weinerth, of the Property Office, also was on annual leave during August on a motor tour through the middle West as far as Wisconsin. Hyman Liebman, of Mails and Files, spent several days at Philadelphia; Miss Roberta M. Taylor, of the Distribution Office, was on leave late in the month at her home in Romney, W. Va., and Russell H. Carpenter, messenger, at Winston, Va.

Members of the scientific staff of the Bureau have recently contributed more than \$50 to a memorial fund to Dr. B. H. Ransom, former chief of the Zoological Division of the Bureau of Animal Industry, the total of which now approximates \$850. This will be invested, and one proposed plan is to use the income as an annual cash prize for a thesis in parasitology or some other field of study in which Doctor Ransom was interested.

The following publication of the Bureau was issued on August 11:

"Game Laws for the Season 1926-27," compiled by Talbott Denmead and Frank L. Earnshaw. Farmers' Bulletin No. 1505-F.

Manuscripts have been submitted for outside publication as follows:

Cox, W. T. "Gretna Green' on the Upper Mississippi."
Denmead, Talbott. "Uncle Sam--Bird Guardian."
Gabrielson, Ira N. "Silent Wings."
Nelson, E. W. "Two New Birds from Mexico."
Preble, Edward A. "January in Nature."

Beginning on page 9 is a revised list of the publications of the Biological Survey that are available for general distribution.

BIOLOGICAL INVESTIGATIONS

F. C. Lincoln returned to Washington on August 5 after completing a successful trip to the breeding colonies of ducks and other waterfowl on the Bear River marshes, Utah, for the purpose of banding these birds to determine the migration and wintering grounds of those that nest on these important areas. With the cooperation of the State game warden and some of his assistants, Mr. Lincoln was able to trap and net considerable numbers of the nesting wild fowl, and about 950 birds were banded in the course of the work, including some ducks suffering from alkali poisoning. He also took a number of motion-pictures to be used in illustrating methods of banding and general conditions on these breeding grounds.

From August 16 to 18, Mr. Lincoln was associated with Dr. H. E. Ewing, of the Bureau of Entomology, in nature-study work at the scoutmasters' training camp at Camp Roosevelt, near Chesapeake Beach, Md. On the 18th Mr. Lincoln conducted a bird hike there and gave two lectures on bird life.

Dr. H. C. Oberholser returned to Washington on August 20 after attending the sessions of the American School of Wild Life Protection held at McGregor, Iowa., from August 1 to 13. During this assignment he delivered lectures on "Our Big-game Animals" and "Birds of Our Pacific Possessions," and in addition he gave several informal talks on conservation and took part in numerous conferences and discussions.

Dr. W. P. Taylor spent most of July studying the life history of the western porcupine, with special relation to its effect on forest conservation. National forests visited in New Mexico and Arizona included the Santa Fe, Manzano, Datil, Apache, Sitgreaves, Coconino, and Tusayan. In some of these the porcupine presents serious economic problems; in others the effect is negligible. Doctor Taylor spent a few days late in July on the experimental areas at Seligman and Coconino.

Following his trip to the Yellowstone National Park, where he accompanied members of the Sierra Club of San Francisco on a tour, Vernon Bailey went to Minnesota, stopping en route at Livingston, Mont., and Bismarck, N. Dak., on beaver work. He is visiting various points in Minnesota and Wisconsin to investigate their possibilities as sites for beaver colonies.

T. H. Scheffer has cooperated with the county game commissioners in planting three beavers in a small stream at the head of Packwood Lake, Wash., a locality apparently favorable for beavers, but one which they have been prevented from reaching because of topographical conditions.

Congratulations are extended to Edward A. Preble, of this Division, on the birth of his first grandson, on August 26. The new arrival is the son of Mr. Preble's youngest daughter Evelyn, Mrs. William Walter.

Late July and August was chosen as vacation time by several members of the Division, whose varying tastes or opportunities may be judged by the following: Doctor Jackson went to Cape May, N. J.; Mrs. Jane S. Elliott to Beach Haven, N. J.; Miss Myra A. Putnam to Cliff Island, Me.; Mrs. Blanche W. Mahlman and Miss Emma Charters to North Beach, Md.; Miss Anna McDuffett, Washington, D. C.; Miss Ruth Richards, Chapel Point, Md., and Clifton Station, Va.; Mrs. Bessie W. Palm, Ocean City, Md.; and John May to Camp Humphreys, Va., on military duty.

ECONOMIC INVESTIGATIONS

Doctor Fisher left Washington the latter part of August for an extended trip of inspection and conference throughout the West where operations for the control of rodents and predatory animals are being conducted.

E. M. Mills, of Melrose, Mass., a graduate of Cornell University, has recently been appointed junior biologist in the eastern rodent-control work, and is to be assigned field headquarters at some point in New England.

James Silver, leader of the eastern rodent-control district, is holding conferences and demonstrations in Indiana, Illinois, and Wisconsin.

Mrs. Helen C. Wood, typist in this Division, is spending her vacation at Solomons Island, Md.

E. R. Swanson, clerk in the Reno, Nev., office, has resigned to return to his home in Wisconsin. Miss Edna Thomas, formerly clerk in the office at Manhattan, Kans., has been transferred to the position vacated.

George E. Holman, leader of predatory-animal control in Utah, has launched a campaign to distribute poison over the desert areas of western Utah. This drive will last about two months, eight men being engaged in it, the work being done in cooperation with the State department of agriculture and with stockmen who graze sheep on this area.

Mr. Holman has received reports of bears doing damage among sheep, one to the effect that bears had killed more than 100 sheep belonging to one man. On investigation it was found that the report was probably correct; one herder had shot three bears that were found among the sheep.

An interesting piece of work recently inaugurated in Oregon is the porcupine investigation in the Crater National Forest in cooperation with the Forest Service. Damage to re-seeded areas and seedling growth is tremendous in some sections of this forest and adjacent privately owned timberlands. Around salt logs and along lava rims all the young seedlings have been injured by these animals, and counts taken half a mile away from any slide or salt log show 50 per cent damage. From reports of rangers and other interested persons, as well as by direct observation of I. N. Gabrielson, leader in rodent-control in Oregon, it is indicated that most of this damage has occurred within the past five years and that if it increases proportionately during the next five there will be few seedling pines undamaged in this locality. Mr. Gabrielson is testing a new poisoning method and is arranging to poison a large area in an effort to learn further regarding its cost and practicability.

Roy Fugate, junior biologist, completed the ground-squirrel work in eastern Oregon during the early part of July and checked up the work in Wallowa County. The latter part of the month he spent in Malheur County working in cooperation with the county agent in a jack-rabbit-poisoning campaign in Jordan Valley. Every landowner in the Arock and Rome sections cooperated in putting out poison and much damage was stopped. Up to the time Mr. Fugate left the community, at least 10,000 rabbits were killed and 100 ounces of strychnine put out.

Inspections have been made in Utah by A. L. Bridenstine, junior biologist, to follow up a report of an epizootic of tularemia that has been killing jack-rabbits in Wayne and Garfield Counties. Mr. Bridenstine found no dead rabbits and very few live ones, for as soon as the people learned that the disease was contagious, they burned the dead rabbits. According to reports a number of individuals have been suffering from attacks of tularemia in the vicinity of Loa and Teasdale in Wayne County. In several of the communities the farmers said that the rabbits died so fast that they clogged irrigation ditches at junction points.

In order to present a workable plan on rat extermination, as requested by the City of Tacoma, Wash., the rat work conducted by H. S. Speer, in Portland, Oreg., under supervision of the Biological Survey, has been thoroughly reviewed by Leo K. Couch and John Finley, of the Washington district. The public markets were visited, as well as water-front properties, and the scarcity of rats in Portland was plainly evident, which demonstrates what can be accomplished through an organized campaign. As a result of this visit, plans are being formulated to assist the city officials of Tacoma in organizing along similar lines.

An outstanding example of complete eradication and unique catches is reported by Hunter Ed. James, of Yuba County, Calif. Ten settings of traps were placed in an area approximately half a mile long. The line was visited the following morning, and of the ten sets, nine held coyotes, including the old male, female, and seven pups. The tenth set had been sprung by rabbits. Charles G. Poole, leader of predatory-animal control in California, writes that he would like to hear from any district that has a similar case or where this record has been beaten.

Hunter Jens Holst, of South Dakota, had the misfortune on July 5 to be thrown from his horse and have three ribs broken, so that it was necessary for him to spend several weeks in the hospital. Hunter William Price, of that State, has been discharged from the Battle Mountain Sanitarium, where he has been treated for blood poisoning.

FOOD HABITS RESEARCH

During the early part of August, C. C. Sperry made a survey of the wild-fowl food resources of Okefenokee Swamp, Ga. ^{tell} Later he visited the Back Bay region in Virginia, where recent reports of the destruction by some unknown cause of much of the submerged vegetation.

F. M. Uhler, having completed his work in connection with the duck-food survey of the upper portion of the Upper Mississippi River Wild Life and Fish Refuge, took a week's leave of absence at his home in Minnesota and then returned to Washington. Dr. Norman K. Fassett has taken Mr. Uhler's place in the continuation of this survey in company with Neil Hotchkiss. Warren N. Keck and Charles F. Stilwill also are continuing their survey work on Minnesota lakes.

FUR RESOURCES

During the week of August 16, D. Monroe Green assisted Dr. K. B. Hanson with work at the Experimental Fur Farm, where a new rabbit building to accommodate 50 breeding does is being constructed, as well as new types of rabbit hutches. A definite system of recording weights of rabbits to show the development of growth during various stages has been inaugurated, and the kinds and quantities of feed necessary to produce gains in weight during certain periods are being studied.

David C. Mills, general director of the National Association of the Fur Industry, visited the Bureau during the first week in August and discussed the cooperative work that the Biological Survey is doing with that association.

Returns from a questionnaire sent to fox and fur-animal breeders show that there are approximately 2,500 fur farmers in the United States, [and Bi- the majority of them raising silver and blue foxes. Forms Bi-442, "Breeders of Foxes" and "Breeders of Fur Animals," are being revised and will be ready for distribution in a few weeks.

In cooperation with the Migratory-Bird Treaty and Lacey Acts Division, an abstract of fur laws for the season 1926-27 has been compiled and mimeographed copies sent to raw-fur receiving houses and fur-trade journals. This information will be incorporated in their fall fur catalogues, which are being sent to trappers.

GAME AND BIRD RESERVATIONS

On recommendation of the Secretary, an Executive order has been issued for the abandonment of Walker Lake Bird Reservation, Ark., which comprised about 14 acres and was formerly a fine heron rookery. Drainage operations in the vicinity, however, made it entirely dry, so that the birds abandoned the place and there is no hope of its ever being restored as a wild-life refuge.

Exercises in connection with the dedication of the Burtness Scenic Highway were held on August 8 at Sullys Hill National Park and Game Preserve. Warden Wesley D. Parker reports that 5,586 visitors, arriving in 1,124 cars, were there on that day.

Owing to low water at Lake Malheur Bird Reservation, Oreg., waterfowl, especially ducks, have been dying, evidently because of alkali or other substances in the water. The losses have been unusually heavy this season, and the situation seems likely to continue for some time unless relieved by heavy rains. Small numbers of birds that were removed to fresh water recovered from the malady and were able to fly within a short time. Investigations are being made by employees of the Bureau with a view to affording some relief.

Buffalo calves in the following numbers have been reported this season at big-game preserves administered by this Bureau: 131 at the Bison Range; 22 at Wind Cave; 14 at Niobrara; and 3 at Sullys Hill.

The United States boat Widgeon, formerly in the service of the Migratory-Bird Treaty and Lacey Acts Division, has been turned over to this Division in order that members of the staff of the Winona office may more readily reach points in connection with the acquisition of lands for the Upper Mississippi River Wild Life and Fish Refuge.

H. F. Stone, formerly head of this Division, was a recent visitor at the Bureau.

A number of Hungarian pheasants from the Benson Pheasant Farm at Silverton, Oreg., were recently liberated on the National Bison Range in Montana.

Miss Mabel A. McCann has been appointed stenographer in the Winona, Minn., office.

R. J. Schmalhausen, reservation superintendent employed by the Bureau of Reclamation and stationed at Elephant Butte Reservoir, N. Mex., has been appointed reservation warden to cooperate with the Biological Survey in protecting wild life at the Rio Grande Bird Reservation, N. Mex., which is within the Rio Grande Reclamation Project. Mr. Schmalhausen succeeds C. L. Grow, deceased.

MIGRATORY-BIRD TREATY AND LACEY ACTS

Mr. Sheldon visited Ocean City, Md., on August 16 to be present on the marshes at that point at the opening of the shorebird season. He found conditions rather unfavorable for the birds but saw a large number of yellow-legs, curlew, and other shorebirds. No violations were observed.

The motorboat Canvasback, in charge of Warden Kenneth F. Roahen and Deputy Warden Moody Creighton, left Washington, D. C., on August 3 for patrol duty in the vicinity of Wachapreague, Va., and Ocean City, Md. Severe weather was encountered throughout the entire trip, but many shorebirds, particularly curlew, were observed.

Arrangements have been completed for the transfer of Federal Warden Geo. M. Riddick from Texas to Arkansas to fill the vacancy caused by the death of Warden E. V. Visart. Frank Clarkson has been appointed to the position in Texas.

Warden Barmeier, with the assistance of Deputy Warden L. J. Mrovka, has completed an examination of the receiving records of raw-fur houses in St. Louis, and approximately 2,500 shipments of furs have been referred to various State game wardens and some of the Federal game wardens for investigation as to their legality. Prior to the completion of the work Warden

K. F. Roahen conducted a similar investigation in Chicago and reported more than 1,500 shipments for further investigation. Warden Roahen's observations concerning shipments from Wisconsin were sufficient to induce the conservation commission of that State to send wardens to Chicago to conduct a special investigation. Assisted by Deputy Warden Edward N. Scholler, they obtained information concerning 114 apparently illegal shipments of furs from the State, including a large number of beaver skins.

In company with State Deputy Wardens Lingle and Weaver, of Minnesota, Warden P. S. Farnham has made special investigations in the receipt of raw furs in New York City and, in addition to information obtained concerning Minnesota shipments, has reported a number of beaver-skin shipments from other sections of the country.

Warden B. J. Shaver has been assisting the State game commissioner's office of Minnesota in a wholesale investigation of illegal traffic in beaver skins, which has carried him to various points in Minnesota and Wisconsin.

The following is taken from Warden P. S. Farnham's weekly report: "On Tuesday, June 22, while patrolling about Forest Lake in Cayuga County, N. Y., I noted a purple grackle nest in the stub of a dead tree. This nest was in a hole not unlike that of a flicker. The female was feeding the young at the time and not more than two feet from this nest and on the opposite side of the stub was a nest of tree swallows with young. The swallows were fighting the grackle every time she came to the nest. This flicker-like nesting by the purple grackle may not be unusual but I have never seen it before."

In his report of July 2, Warden George Tonkin, of Berkeley, Calif., writes: "An old ruffed grouse rushed into the road to stop my car while her brood of young escaped in the brush. I was obliged to stop the car in order not to run over her."

W. R. Dillon left Washington on August 21 by automobile for Portsmouth, Ohio, where with his family he is visiting his mother and sister. Mrs. Margaret B. Leonard is on vacation at Bangor, Me., and Miss Mary O'Brien at Brooklyn, N. Y.

Cases Terminated--Reports Received During July

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier	1	Missouri	Possessing a gull	\$10
Hampe*	1	Texas	Possessing robins and selling a duck	1 hour custody of marshal

*U. S. Deputy Game Warden

Cases Terminated--Reports Received During July, Cont'd.

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Hampe	1	Texas	Possessing meadowlarks	1 hour custody of marshal
Harrell*	1	Florida	Selling a duck	\$5
"	1	"	Selling ducks	\$25
Hoffman	1	Alabama	Selling ducks	\$5
"	1	"	Selling ducks	\$25
Jankowski*	1	Illinois	Killing a duck in close season	\$10
Kelsey	3	No. Dakota	Hunting ducks after sunset	\$25 each
Roahen, Hahn**	1	Illinois	Possessing ducks in storage in close season	\$25
Roahen, Scholler*	1	"	Possessing ducks in storage in close season	\$15
" "	1	"	Possessing ducks in storage in close season	\$25
Shaver, Gervais**	1	Minnesota	Hunting ducks after sunset	\$5
Whitehead	1	Florida	Possessing doves in storage in close season	\$10
"	1	"	Possessing ducks in storage in close season	\$10
"	1	"	Selling ducks	\$5

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barmeier, Heller *	1	Missouri	Possessing ducks and yellowlegs in close season
Birsch	1	Virginia	Killing an egret
Charlton, Francis *	1	Ohio	Possessing a loon
Heller, Barmeier	1	Missouri	Possessing ducks in close season
" "	3	"	Hunting ducks in close season
Hoffman	2	Alabama	Selling ducks
Linebaugh	1	Kentucky	Possessing a duck in close season
Pacetti	1	Florida	Possessing egret plumes for sale
Riddick	1	Texas	Killing robins
"	1	"	Possessing robins
"	1	"	Purchasing robins
Roahen	1	Illinois	Possessing ducks in storage in close season
Shaver	1	Minnesota	Possessing a duck in close season
Whitehead	3	Georgia	Killing doves in close season

* U. S. Deputy Game Warden

** Deputy State Game Warden

PUBLICATIONS OF THE BUREAU OF BIOLOGICAL SURVEY
AVAILABLE FOR GENERAL DISTRIBUTION

NOTE:- Requests for publications, except information leaflets listed on page 12, should be addressed to the Director of Information, U. S. Department of Agriculture, Washington, D. C. When the limited supply for free distribution is exhausted, applicants are referred to the Superintendent of Documents, Government Printing Office, Washington, D. C., who has copies for sale at a nominal price.

Applicants are requested to ask for ONLY ONE COPY of the publications in which they are interested, and to mention the series, number, and title as given below.

REPORTS

Annual Report of Chief of Bureau of Biological Survey, 1925.
B.S.R.L. Our Migratory Wild Fowl and Present Conditions Affecting Their Abundance.

DEPARTMENT BULLETINS--Biological Survey Contributions

- 185D. Bird Migration.
- 205D. Eleven Important Wild-duck Foods.
- 465D. Propagation of Wild-duck Foods.
- 793D. Lead Poisoning in Waterfowl.
- 794D. Waterfowl and Their Food Plants in the Sandhill Region of Nebraska.
- 936D. Wild Ducks and Duck Foods of the Bear River Marshes, Utah.
- 1078D. Beaver Habits, Beaver Control, and Possibilities in Beaver Farming.
- 1089D. Reindeer In Alaska.
- 1091D. Life History of the Kangaroo Rat.
- 1151D. Silver-fox Farming.
- 1165D. Report on Bird Censuses in the United States, 1916 to 1920.
- 1196D. Food and Economic Relations of North American Grebes.
- 1227D. Damage to Range Grasses by the Zuni Prairie Dog.
- 1249D. Food Habits of Some Winter Bird Visitants.
- 1268D. Returns from Banded Birds, 1920 to 1923.
- 1346D. Status of the Pronghorned Antelope, 1922-1924.
- 1350D. Blue-fox Farming in Alaska.
- 1355D. Food Habits of the Vireos, a Family of Insectivorous Birds.
- 1359D. Food of American Phalaropes, Avocets, and Stilts.
- 1395D. Bats in Relation to the Production of Guano and the Destruction of Insects.
- 1423D. Progress of Reindeer Grazing Investigations in Alaska. (In press.)

FARMERS' BULLETINS--Biological Survey Contributions

- 493F. The English Sparrow as a Pest.
497F. Some Common Game, Aquatic, and Rapacious Birds in Relation to Man.
506F. Food of Some Well-known Birds of Forest, Farm, and Garden.
513F. Fifty Common Birds of Farm and Orchard. (For sale only, see footnote)
Price, 15 cents.*
525F. Raising Guinea Pigs.
587F. Economic Value of North American Skunks.
621F. How to Attract Birds in Northeastern United States.
630F. Some Common Birds Useful to the Farmer.
702F. Cottontail Rabbits in Relation to Trees and Farm Crops.
755F. Common Birds of Southeastern United States in Relation to Agriculture.
760F. How to Attract Birds in Northwestern United States.
844F. How to Attract Birds in the Middle Atlantic States.
869F. The Muskrat as a Fur Bearer: With Notes on Its Use as Food.
912F. How to Attract Birds in the East Central States.
1090F. Rabbit Raising. (Out of print.)
1102F. The Crow in Its Relation to Agriculture.
1239F. Community Bird Refuges.
1247F. American Moles as Agricultural Pests and as Fur Producers.
1302F. How to Get Rid of Rats.
1327F. Canaries: Their Care and Management.
1397F. Mouse Control in Field and Orchard.
1456F. Homes for Birds.
1505F. Game Laws for 1926-27.
1515F. Fur Laws for the Season 1926-27. (In press.)

REPRINTS FROM YEARBOOKS--Biological Survey Contributions

- 723Y. The Great Plains Waterfowl Breeding Grounds and Their Protection.
785Y. Federal Protection of Migratory Birds.
823Y. Trapping on the Farm.
836Y. Conserving Our Wild Animals and Birds.
843Y. Farm Help from the Birds.
845Y. Hunting Down Stock Killers.
855Y. Death to the Rodents.

DEPARTMENT CIRCULARS--Biological Survey Contributions

- 336C. Spread of the European Starling in North America (1924).
398C. Directory of Officials and Organizations Concerned with the Protection of Birds and Game, 1926. (In press.)

* Farmers' Bulletin No. 513, "Fifty Common Birds of Farm and Orchard," is illustrated by 50 colored pictures of birds. Copies may be obtained by purchase only, from the Superintendent of Documents, at 15 cents each, singly or in quantity (stamps not accepted). This and other publications available by purchase only are listed in Price List No. 39, "Birds and Wild Animals." Copies of the price list are obtainable free of charge from the Superintendent of Documents.

MISCELLANEOUS CIRCULARS--Biological Survey Contributions

- 13M. Local Names of Migratory Game Birds.
69M. Construction and Operation of Biological Survey Beaver Trap.

NORTH AMERICAN FAUNA

A technical series of the Biological Survey, of interest chiefly to professional biologists; mostly out of print and to be obtained only from dealers in second-hand books, but some few of the 47 numbers thus far issued are still for sale by the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices named for each in Price List No. 39, "Birds and Wild Animals."

JOURNAL OF AGRICULTURAL RESEARCH--Biological Survey Contributions

- Q-1. Life History and Habits of Meadow Mice (Microtus).
Q-2. Anthelmintic Efficiency of Carbon Tetrachloride in the Treatment of Foxes.
Q-3. Individual and Age Variation in Microtus montanus yosemite.
Q-4. The European Hare in North America.

SERVICE AND REGULATORY ANNOUNCEMENTS
Biological Survey Contributions

- B.S.-13 Regulations for the Issue of Permits for Quail Imported into the United States from Northeastern Mexico. (Also, Nos. 31, 39, and 49.)
B.S.-24. Regulations for Big Lake Bird Reservation in the State of Arkansas (Also Nos. 36, 44, 50, 58, and 64.)
B.S.-37. Hunting on Parts of Deer Flat Reservation in the State of Idaho.
B.S.-41. Regulations for the Aleutian Islands Reservation, Alaska.
B.S.-42. Hunting of Migratory Game Birds on Nine-Pipe and Pablo Reservations, Montana.
B.S.-47. Hunting of Wild Fowl on Salt River Reservation, Arizona.
B.S.-54. Regulations for the Importation of Eggs of Game Birds for Propagation.
B.S.-57. Hunting Migratory Game Birds on Cold Springs Reservation, Oregon.
B.S.-65. Text of Laws of the United States and Canada Relating to Game and Birds.

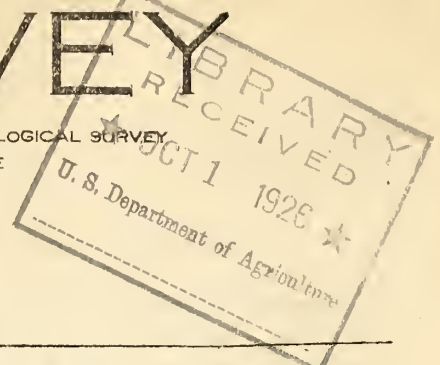
INFORMATION LEAFLETS

NOTE:- Requests for leaflets listed below should be addressed to the Chief, Bureau of Biological Survey, U. S. Department of Agriculture, Washington, D. C.

- | <u>Birds</u> | <u>Fur-bearing Animals</u> |
|--|---|
| Bi-159. Publications on Attracting Birds. | :Bi-103. Hints on the Care of Martens and Fishers. |
| Bi-160. Dealers in Devices for Attracting Birds. | :Bi-106. Hints on the Care of Minks. |
| Bi-203. Publications of Interest to Game Breeders. | :Bi-128. Hints on the Care of Ferrets. |
| Bi-259. Dealers in Duck food Plants. | :Bi-152. Hints on the Care of Otters. |
| Bi-266. Hints on the Care of Peafowl. | :Bi-180. Hints on the Care of Opossums. |
| Bi-458. Dealers in Game and Ornamental Birds. | :Bi-216. Hints on the Care of Raccoons. |
| Bi-489. Eradicating Roosts of Birds. | :Bi-366. Publications on Fur and Fur Animals. |
| Bi-514. Propagation of Wild Ducks. | :Bi-368. Manufacturers of Traps. |
| Bi-521. Hints on the Care of Parrots. | :Bi-442. Breeders of Foxes. |
| Bi-631. Dealers in Cage Birds. | :Bi-464. Breeders of Fur Animals. |
| Bi-667. Directions for Poisoning Pinyon Jays. | :Bi-526. Hints on Raising Squirrels. |
| Bi-698. Propagation of Wild Geese. | :Bi-690. Shipments of Furs from Alaska. |
| Bi-729. Poisoning Magpies. | :Bi-709. Fur Farms of Alaska. |
| Bi-787. Aids for Bird Students. | :Bi-880. Breeders of Fancy Rabbits. |
| Bi-861. The Care of Swans. | :Bi-881. Breeders of Utility Rabbits. |
| | :Bi-883. Breeders of Chinchilla Rabbits. |
| | :Bi-885. Chinchilla Rabbits for Meat and Fur. |
| | :Bi-887. Guinea Pig Breeders and Purchasers. |
| | :Bi-889. Publications on Trapping. |
| | |
| | <u>Miscellaneous Subjects</u> |
| | :Bi-161. Publications of Biological Survey Available for Free Distribution. |
| | :Bi-565. The American Chameleon and Its Care. |
| | :Bi-571. Poisonous Snakes of the United States. |
| | :Bi-664. The Toad. |
| | :Bi-770. Directions for Destroying Crawfishes. |
| | :Bi-855. Facts About Snakes. |
| | |
| <u>Rodent Pests</u> | |
| Bi-139. Directions for Poisoning Jack Rabbits. | |
| Bi-175. Directions for Poisoning Pocket Gophers. | |
| Bi-414. Directions for Poisoning Rats with Barium Carbonate. | |
| Bi-539. Directions for Poisoning Rats with Strychnine. | |
| Bi-669. Poisoned Baits for Marmots. | |
| Bi-703. Organizing an Anti-rat Campaign. | |
| Bi-768. Directions for Destroying Woodchucks, or "Groundhogs." | |
| Bi-825. Killing Rats with Calcium Cyanide. | |

THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE



Vol. 7

Washington, D. C., September 29, 1926

No. 9

GENERAL NOTES

Doctor Nelson left Washington on September 11 on a two months' tour of inspection of the western field stations of the Bureau.

A conference of sportsmen, game officials, and conservationists, called by Doctor Nelson, was held at the offices of the Bureau on September 8 to discuss the use of sinkboxes or batteries, mat-blinds, and other devices employed in hunting migratory wild fowl in the waters of Maryland, North Carolina, and Virginia. It was desired to obtain information that might be of value in connection with the administration of the migratory-bird treaty act and the preparation of any necessary regulations under it, in view of the belief of many sportsmen that there is a necessity for better regulation in the use of sinkboxes and other devices in duck shooting in some parts of the Atlantic Coast States. The situation was thoroughly discussed, and many valuable facts bearing on the matter were brought out for the use of the Bureau.

United

H. P. Sheldon, chief/States game warden, and Frank G. Ashbrook, in charge of Fur Resources, attended the twentieth annual convention of the International Association of Game, Fish, and Conservation Commissioners and the American Fisheries Society held at Mobile, Ala., September 20 to 24. On September 20 Mr. Ashbrook read a paper on the "Production and Conservation of Fur Animals." and on the 21st Mr. Sheldon spoke on "Perpetuation of Migratory Wild fowl by Conservation of Our Water Areas."

On their return both Mr. Sheldon and Mr. Ashbrook had many interesting stories to tell about the tropical storm that struck Mobile soon after their arrival.

Mrs. A. B. Morrison, assistant to the chief, is spending her vacation with her daughter in Chicago.

Several books charged to individuals and to the Bureau by the Main Library have been lost, probably because the original borrowers have loaned them to other persons in the department. In order to locate as many as possible of these books, the Library requests that employees, especially in the field, having department books turn them in, either permanently or for recharging.

The following publications of the Bureau were issued in September:

"Rabbit Meat Poster," in colors, Bi-898. Issued September 18.

"Fur Laws for the Season 1926-27," by Frank G. Ashbrook and Frank L. Earnshaw. Farmers' Bulletin 1515-F. Issued September 20.

Manuscripts have been submitted for outside publication as follows:

Ashbrook, Frank G. "The Henry Fords of the Fox Business."
Denmead, Talbott. "Scaip! Scaip!"
Goldman, Edward A. "A New Kangaroo Mouse from Nevada" and "The Yellowstone Elk in Overabundance."
Jackson, Hartley H. T. "Review of Newsom's 'Whitetailed Deer'."
Lincoln, Frederick C. "Lifting Power of the Mallard" and "Bird Migration."
McAtee, W. L. "Birds of the Golf Course: The Kingbird."
Nelson, E. W. "Bird Banding."
Preble, Edward A. "February in Nature."
Sheldon, H. P. "The Sportsman as a Game Conservationist."

BIOLOGICAL INVESTIGATIONS

Vernon Bailey has returned from the beaver country of northern Minnesota and Michigan, where he has been carrying on further investigations in beaver management and visiting the beaver colonies planted under fence three years ago. The trap for catching beavers alive was given a thorough and gratifying test in capturing animals for experiments in marking, but no satisfactory method of marking the animals has been devised. The two experimental colonies of beavers established near Boyne City and Luther, in the Lower Peninsula of Michigan, in September, 1923, were found to have increased to the maximum extent and to have built the necessary dams and houses. Mr. Bailey also studied the effectiveness of the fences built for restraining them.

T. H. Scheffer, of Payallup, Wash., continued during August his work on the relation of native mammals to agriculture and other economic interests. At the request of the Washington State Game Service beavers received considerable attention in localities where their activities had proved detrimental to agriculture or to highways.

Dr. W. P. Taylor, during a visit to the Los Angeles region, participated in conferences with various officials of the Scripps Institution of Oceanography, at La Jolla, and Occidental College, the Museum of History, Science, and Art, and the California Institute of Technology, at Los Angeles. Plans were also elaborated for a close supervision of the experimental areas in northern Arizona established several years ago to promote studies of the relation of rodents to grazing.

Miss Ethel M. Johnson, of this division, is spending September with her parents at West Unity, Ohio.

ALASKA INVESTIGATIONS

W. F. Bancroft spent two weeks during the month on military duty at Camp Eustis, Fort Eustis, Va.

ECONOMIC INVESTIGATIONS

Arrangements have been completed for S. E. Piper, leader of the extermination methods project, to visit a number of the field offices about October 1 to confer regarding improved methods that have been devised and problems in the field that require further investigation.

James Silver, leader of rodent control in the eastern district, has returned from a series of conferences in Wisconsin, Indiana, Illinois, and Ohio and reports much interest in the work.

Miss Charlotte D. Watson, stenographer in this Division, has been spending her vacation at Colonial Beach.

Roy W. Moore, junior biologist, spent three days in Finney County, Kans., during the month to check up on the prairie-dog and jack-rabbit situation. Plans for rabbit-poisoning experiments and for some community work during fall and winter were formulated. Mr. Moore also visited Kearney, Hamilton, Greeley, Wichita, Lane, and Scott Counties to interview county clerks, trustees, and county commissioners regarding prairie-dog campaigns and found a general concern about jack rabbits. Kearney County alone paid out in bounties last year \$16,000 for rabbit ears.

A. E. Gray, leader of rodent control in New Mexico, attended the fifth annual conference of the teachers of vocational agriculture at the State college on August 12 and discussed problems of rodent control in the State. Consideration was given to the introduction of instruction in rodent-control methods as factors in crop production in the various schools throughout the State. By such instruction it will be possible to acquaint farmers and stockmen with the necessity of considering the control of injurious animal pests in the cost of production.

Jordan Valley community in Malheur County, Oreg., used 100 ounces of strychnine in July in a campaign conducted against jack rabbits under the leadership of Roy Fugate, junior biologist, and the county agent. About 10,000 of the rodents were killed. This is the first time in two summers that jack rabbits have come into any community in Oregon in sufficient numbers to develop interest in a poison campaign. Mr. Fugate has also investigated damage to cornfields by crows in Hood River County and porcupine infestation in the Malheur National Forest.

L. C. Whitehead, leader of rodent control in Texas, reports 7,000 rats killed during the month in San Antonio by merchants cooperating with the city health department. Special concentration in control work was given, particularly along the river front, where the rat harborages were worst. A rat-proofing ordinance was drafted and submitted to the city health officer, the attorney, and the city council.

The success of the rat campaign carried on in western Washington resulted in calls for assistance from a number of coast cities, writes Leo K. Couch, leader of rodent control in Washington. In Puyallup, John Finley, junior biologist, cooperated with business men in cleaning up and rat-proofing a restaurant, a meat market, and two groceries. In Seattle a producers' association requested assistance, as the members have had thousands of dollars worth of foodstuffs destroyed annually by rats. As the result of work done last spring in a packing plant in Seattle, where the rats are now under complete control, Mr. Couch was requested by the Bureau of Animal Industry meat inspector in charge to study the rat situation at other packing plants.

George E. Holman, leader in predatory-animal control in Utah, reports several complaints from stockmen of trouble from coyotes and bears. Hunter John Grow has been successful in taking two stock-killing bears on the North Fork of the Ogden River, and herders in killing three more.

O. E. Stephi, leader of rodent control in Montana, states that at Fort Benton, Mont., one or two beavers made their home a year or two ago just opposite the main street of the town along the bank of the Missouri River, near the leading business houses. Now there is a small colony of them and they have become accustomed to the presence of people. Each evening they leave their burrows in the banks of the river and swim and play along the banks just below the lawn between the street and the river. One was observed under the wagon bridge where it was undisturbed by passing vehicles. They are now proving a nuisance and last winter damaged the large cottonwood trees on the boulevard along the main street.

Mr. Stephi reports the sentiment in Montana strongly in favor of the protection of antelope. The arrest and heavy fining of two poachers in Square Butte last fall have ended the destruction of these animals in the vicinity. It is said that 35 antelope are ranging just north of Square Butte; there were 50 before the poachers began their slaughter last fall. Mr. Stephi also reports the lark bunting now present in many places in Montana where this bird has never been seen before.

H. R. Wells, leader of rodent control in South Dakota, resigned effective September 15. Clyde F. Briggs, assistant in predatory-animal control in South Dakota, also has tendered his resignation, effective September 30.

FOOD HABITS RESEARCH

E. R. Kalmbach devoted two weeks in September to the bobolink-black-bird problem in the only remaining ricefields in North Carolina, near Wilmington. Investigations were made of automatic acetylene guns in protecting the crop in the open fields and the use of rifles from a shooting tower in place of a shotgun, with a view to reducing the cost of bird minding and obtaining more effective results.

F. H. Mahlman, stenographer, left the division on September 16 to enter a new field of work, architecture. He will be employed in the Supervising Architect's Office of the Treasury Department, where he will take up duties in

connection with the extensive building program authorized by the last Congress for the various executive departments in Washington. Mr. Mahlman has been connected with the Biological Survey since 1920. The best wishes of his former associates in the Bureau go with him as he leaves for his new work.

FUR RESOURCES

Dr. Karl B. Hanson, in charge of the Experimental Fur Farm at Saratoga Springs, N. Y., was in Washington during the week of September 13 to confer with Mr. Ashbrook regarding the work at the farm.

D. Monroe Green left Washington on September 19 for points in Kansas, Colorado, Utah, California, and Washington to inspect rabbitries and marketing and killing establishments and to study methods employed in raising rabbits for meat and fur. While in California he will attend the rabbit show at the Los Angeles County Fair, September 28 to October 2.

The new bulletin on the fur laws, Farmers' Bulletin No. 1515-F, "Fur Laws for the Season 1926-27," was issued on September 20 and is being distributed to trappers, conservation commissions, raw-fur men, and conservationists. Copies may be obtained by addressing the United States Department of Agriculture.

To acquaint the public with the value of domestic rabbit meat and to encourage its consumption, the Bureau has issued a colored poster picturing two dressed rabbits and plates of fried and baked rabbit and calling attention to the good qualities of this meat. Dealers in meat and others who will display the poster in a conspicuous place may obtain a copy free on request to the department.

GAME AND BIRD RESERVATIONS

Mr. Goldman left on September 2 to visit various points in the West in connection with the administration of game and bird reservations of the Bureau and also to continue investigations of conditions affecting deer on the Kaibab National Forest in northern Arizona, in cooperation with officials of the Forest Service and the National Park Service. Also, in cooperation with the Forest Service and State game commissions, he will study problems relating to the increase of elk in Wyoming, Montana, and the Olympic Forest of the State of Washington.

By Executive order of August 28, 1926, a new bird reservation, to be known as the Columbia River Bird Refuge, has been created on two small islands in the Columbia River, at the mouth of the Walla Walla River, Washington, comprising together about 8 1/4 acres of land. The creation of this refuge was based on field investigations of the Biological Survey, which found these rocky islets especially desirable as breeding grounds and safe retreats for ducks and other wild fowl.

Miss Clara Ruth, stenographer-clerk in this Division, spent her vacation late in August and early in September at Atlantic City, N. J.

Warden Frank H. Rose has loaned a buffalo calf and yearling buffalo and elk from the Bison Range to the State of Montana for exhibition at various fairs this fall. A yearling buffalo bull has been shipped from this reservation to the town park at Wadena, Minn. Old "Skim," believed to be the last of the original herd of buffalo introduced on the Bison Range, died on September 5.

A buffalo and an elk were sold during the month from the herds at Niobrara Reservation, Nebr., for use at a barbecue at the Izaak Walton League convention held in Valentine, Nebr.

Reports from Lake Malheur Bird Reservation, Oreg., state that conditions there are rapidly improving on account of cooler weather, and few ducks are now dying.

Rain during the latter part of August at Conconully Bird Reservation, Wash., and vicinity caused the blue and ruffed grouse there to pass on to higher ground and to the shelter of large timber. Hungarian and Chinese pheasants are staying on the refuge, but waterfowl are fewer there than they have been in other years, because of the scarcity of water in the reservoir. Blue herons and killdeers are more plentiful than other birds.

Warden Ludwig Bethel, of Tortugas Keys Bird Reservation, Fla., reports that the increase of the birds over last year at this refuge is about 15 per cent and that the birds are in good condition.

Warden Wesley D. Parker, who has supervision over Chase Lake and Stump Lake Bird Reservations, N. Dak., visited these refuges recently and erected new signs, replaced old ones, and, at Stump Lake, constructed 80 rods of fence. Many pelicans, ducks, and gulls were seen at Chase Lake.

IMPORTATIONS

Dr. Joseph Grinnell, director of the Museum of Vertebrate Zoology, at Berkeley, Calif., resigned on August 30, 1926, as inspector of foreign birds and mammals at the port of San Francisco, a position that he has held since 1910.

Among the birds imported during the month were 131 blue mountain lorries from Sydney, Australia. This is probably the largest number of these birds ever received in a single shipment.

MIGRATORY-BIRD TREATY AND LACEY ACTS

Warden P. S. Farnham underwent a serious operation for the removal of a toxic goiter, at Sayre, Pa., on September 14. The latest report is that he is doing well. Mr. Farnham's health has been failing for some time, and it is the hope of his friends in the Bureau that his recovery will be a speedy one.

Warden K. F. Roanen returned to his headquarters at Peoria, Ill., on August 24 after spending about a month in Washington and near-by points on official business.

Warden George M. Riddick has now taken up his official headquarters at Little Rock, Ark.

The appointment of United States Game Warden B. J. Pacetti, of Ponce Park, Fla., has been terminated, effective August 31, 1926.

Frank L. Earnshaw returned on September 13 after a two weeks' motor trip with his family through Maryland, Virginia, and West Virginia. Miss Eugenia M. Lane spent a week with friends at Astoria, Long Island, N. Y., during September.

Two violators of the migratory-bird treaty act in Illinois were recently required to remain in jail seven days each before arrangements could be made for the payment of their fines. Two others spent 4 and 25 days, respectively, in jail for similar offenses.

Federal Deputy Warden A. J. Stewart, of Wilmington, Del., during the first two weeks of the open season arrested four persons for killing protected species. In State court one of the offenders, charged with killing a bittern, was fined \$10 and costs; another, for killing meadowlarks, \$75 and costs; and two others, charged with killing sandpipers, were fined, in addition to costs, \$95 and \$100, respectively.

Cases Terminated -- Reports Received During August

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Charlton, Francis*	1	Ohio	Possessing a loon	\$20 and costs
Holmes	1	Iowa	Killing ducks in close season	\$25 and costs
Kelsey	1	So. Dakota	Hunting ducks after sunset	\$25
McCurdy**	3	Louisiana	Killing robins	\$25 each
Pierce*	1	New Jersey	Hunting ducks after sunset	\$25
Roahen	1	Illinois	Hunting ducks after sunset	\$15
Shaver	1	Minnesota	Killing meadowlarks	\$5
"	3	"	Hunting Killdeers	\$10 each
Shaver, Nordin**	1	"	Hunting ducks after sunset	\$10
Stadlmeir*	2	Rhode Island	Hunting ducks after sunset	\$5 each
Steele, R. C.	1	Oregon	Possessing ducks in storage in close season	\$10

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Birsch, Curling**	8	Virginia	Killing sandpipers and snipe
Foolkes*	1	Louisiana	Killing night herons
McCurdy**	3	"	Killing robins
Richarme**	1	"	Possessing night herons

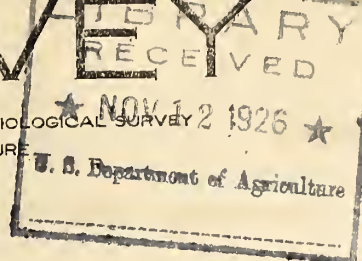
* U. S. Deputy Game Warden

** Deputy State Game Warden

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THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE



Vol. 7

Washington, D. C., October 30, 1926

No. 10

GENERAL NOTES

Eight members of the Biological Survey attended the forty-fourth annual meeting of the American Ornithologists' Union, held at the Victoria Memorial Museum, Ottawa, Ontario, October 11 to 15: W. C. Henderson, W. L. McAtee, Dr. T. S. Palmer, Dr. H. C. Oberholser, Frederick C. Lincoln, Miss May T. Cooke, Edward A. Preble, and Charles H. M. Barrett. The program included the following papers by members of the Bureau: "Averages Are Fundamental in Economic Ornithology," by Mr. McAtee; "Audubon's Shearwater in the United States," by Doctor Palmer; "Water Birds on the New Jersey Coast," by Doctor Oberholser; "The Migration of the North American Herring Gull," by Mr. Lincoln; and "Canadian Field Ornithology: 1750-1900," by Mr. Preble. Of the five associates elected members of the Union, were Miss May Thatcher Cooke (who became an associate member in 1915) and Stanley Gordon Jewett (an associate in 1906), of the Biological Survey. Dr. Alexander Wetmore, formerly biologist in this Bureau and now assistant secretary of the Smithsonian Institution, was elected president of the Union.

Many of the members of the A. O. U. are actively cooperating with the Biological Survey, their work being voluntary and without expense to the Bureau. Some are bird-migration observers and others bird-banding cooperators. The Canadian government has also been cooperating in the bird-banding work. The meeting, which was the first ever held outside the United States, afforded members of the Bureau opportunity to confer with these cooperators and to exchange information. Mr. Henderson was able to confer with Canadian officials on the operation of the laws for the enforcement of the migratory-bird treaty act; and Mr. McAtee visited a large and successful game farm at Toronto, in furtherance of his investigations for the assistance of American breeders of game birds, who seek to provide an additional source of food and to restock the game coverts of the country.

Miss M. E. McClellan, assistant in the department of birds of the California Academy of Sciences, who has recently returned from a collecting trip in Mexico, visited offices of the Bureau on October 2.

The following publications of the Bureau were issued in October:

- "Directory of Officials and Organizations Concerned with the Protection of Birds and Game: 1926," compiled by Talbott Denmead and Frank L. Earnshaw. Department Circular 398-C. Received October 16.
- "Voles of the Genus Phenacomys: I, Revision of the Genus Phenacomys; II, Life History of the Red Tree Mouse (Phenacomys longicaudus). By A. Brazier Howell. North American Fauna No. 48. Received October 16.

Manuscripts have been submitted for outside publication as follows:

- Buchanan, L. L. "A Short Review of Notaris (Coleoptera: Curculionidae).
Gabrielson, Ira N. "The Use of Crude Calcium Cyanide in Rat Control in the City of Portland, Oregon," "Some Rodent Pests of the Northwest," and "Note on Certain Birds Feeding on Wild Cherry."
Kalmbach, E. R. "Monetary Value of Marsh Hawks."
Malloch, J.R. "A New Species of Sapromyzidae from the Hawaiian Islands (Diptera).
Oberholser, Harry C. "The Migration of North American Birds" and "August and September Birds at Washington, D. C."
Stoddard, Herbert L. "Report on Cooperative Quail Investigations: With Preliminary Recommendations for Development of Quail Preserves."
Guy W. Lane, of the Office of Accounts, left by automobile on October 26 for a visit at his home in Swayzee, Ind.
Paul H. Oehser, of the Editorial Office, spent from October 8 to 18 on annual leave at his home in Forestville, Chautauqua County, N. Y.

BIOLOGICAL INVESTIGATIONS

Vernon Bailey left Washington on October 20 for California, where he will spend a month in the Mohave Desert studying the habits of the desert animals, with special reference to hibernation. Specimens of some of the rarer species will be captured alive and brought back for further study.

O. J. Murie has returned to the United States after a successful trip to the region of the Porcupine and Old Crow Rivers in Yukon and Alaska, where a number of geese and duck hawks were banded and specimens of birds and mammals collected. Mr. Murie is spending a few days on annual leave at Twisp, Wash., after which he will return to Washington, D. C.

Dr. W. P. Taylor spent the latter part of September at the rodent experimental plots at Seligman and Williams, Ariz., and in the Coconino and Santa Rita areas, checking up data on the relation of rodents to grazing.

"Voles of the Genus Phenacomys," by A. Brazier Howell, was published on October 12 as North American Fauna No. 48. The report consists of two parts, (1) a technical revision of the genus, and (2) the results of a study of one of the more interesting and scientifically important species, the red tree mouse (Phenacomys longicaudus). The investigations constitute an intensive study and are based on an examination of 317 specimens of ten species and subspecies of the genus, practically all that are extant in this country and Canada.

Theo. H. Scheffer during September continued his studies of the relation of moles and other animals inhabiting mole runways to the growing of root crops and bulbs. During the past year or two the growing of bulbs has become an important industry in the Puget Sound region, where a number of horticulturists from Holland have recently settled.

A. Brazier Howell spent the latter part of October in New York City studying the mammal collections of the American Museum of Natural History.

ALASKA INVESTIGATIONS

The Alaska Game Commission reports the continuation of efforts to stock certain areas in Alaska with big game from the States, and on September 1, a male and female elk were liberated on Kruzof Island in southeastern Alaska. These animals were from the Roosevelt elk obtained from the Olympic Peninsula through the Washington State game department and paid for by Territorial funds made available to the Commission by the last Alaska legislature. Arrangements have been made for obtaining additional animals next spring.

ECONOMIC INVESTIGATIONS

Doctor Fisher is continuing his field trip through the West and has visited many interesting points where field operations are in progress. In Utah Mr. Holman and Hunter Hurdsmen established several poison stations while Doctor Fisher was with them.

E. E. Horn, assistant biologist, stationed at Phoenix, Ariz., has been continuing his study of the movements of porcupines and finds that these animals reoccur along definite areas at given periods of the year. Blocks of wood soaked in a salt solution and nailed in trees are eaten regularly by the animals, and similar blocks containing strychnine-salt have been responsible for the death of several porcupines found in the vicinity.

Joseph Keyes, leader of rodent control in California, in company with F. E. Garlough, of the eradication methods laboratory, during the month reviewed the rabbit conditions in the Honey Lake Valley and adjacent areas extending into Nevada. They found a striking absence of rabbits, the results of the early summer poisoning with salt, as conducted with the cooperation of the farm bureau and the horticultural commissioner, and of depletion by disease. In driving 50 miles from Doyle, Calif., into Nevada, where last spring not less than 500 rabbits were lying dead along the road, the result of automobile and sport hunting, scarcely a dozen could be counted during Mr. Keyes's last trip.

L. L. Laythe, leader of rodent control in Colorado, exhibited during the month a pocket-gopher panel at the Western Slope Fair at Montrose. He reports the booth packed the entire week with visitors especially interested in eradication methods on account of the recent infestation of a large portion of this country by the pocket gopher. Mr. Laythe has been receiving an increasing number of inquiries for methods of destroying pocket gophers and believes that the exhibit did much good.

O. E. Stephi, leader of rodent control in Montana, reports a number of black-footed ferrets in certain prairie-dog towns on the Crow Indian Reservation. Local ranchers call them "bull weasels" and "monkey-faced

prairie dogs." These ferrets probably subsist almost entirely on live prairie dogs, and Mr. Stephl suggests that the remarkable kills of prairie dogs may in reality be due not to the poison alone, but to the fact that when the numerical relation between prairie dogs and ferrets has been disturbed the ferrets kill the few prairie dogs that escape the poison.

The forest supervisor of the Uncompahgre National Forest reported to Stanley P. Young, leader of predatory-animal control in Colorado, that on a field trip on the summer grazing areas of the forest not a single coyote or coyote track was seen, and only once was a coyote heard to howl.

Stanley G. Jewett, leader of predatory-animal control in Oregon, reports that bears have caused considerable trouble in the higher sections in the Blue Mountain area during the past summer. Hunter John Laurence succeeded in destroying a bear in his territory that had killed 8 sheep in one night. Another bear in Umatilla County raided a band of sheep and killed 12 in one night, and in Wallowa County a bear is reported to have killed a calf.

Ten wild dogs, which no doubt had been lost or abandoned by tourists or transients and forced to become predatory, were killed in South Dakota during September. One of these dogs had killed 17 sheep.

Most of the hunters in Utah during September continued the poison campaign on the winter ranges of the State, with some noteworthy results. Where they were able to go back over their poison lines they found the work effective. Ten men worked in the western part of the State two together, with cars, and while these visited only a small part of the many poison lines put out, they found an average of 26 coyotes apiece. The greatest pickup, 92 coyotes, was made by Hunters W. J. Lowder and Arthur Perry, in Iron and northern Washington Counties.

A sheep owner of Rock Springs, Wyo., states that he has saved 600 sheep during the past year by cooperating with the Biological Survey in keeping a good hunter working on his range.

Hunter Del Dearth, of Big Piney, Wyo., on September 11 shot a black bear that had killed and was eating a sheep. Hunter Torrence shot a bear that during July and August had killed 15 sheep on a ranch at Kaycee, Wyo.

FUR RESOURCES

Mr. Ashbrook spent from October 16 to 21 at the Experimental Fur Farm at Saratoga Springs, N.Y., after which he attended the meeting of the American Fox Breeders' Association at Wells River, Vt.

Bridgewater Arnold, of the National Association of the Fur Industry, cooperating with the Biological Survey, was in Washington during the last week of October collecting statistical matter in the Department of Commerce.

GAME AND BIRD RESERVATIONS

Doctor Nelson and U. S. Game Warden R. C. Steele visited Lake Malheur Bird Refuge, Oreg., late in September to study conditions there. State Game Commissioner Harold Clifford and District Game Warden Hazel-tine also visited Lake Malheur early in October. Geese are reported plentiful and in fine condition at the refuge, and many geese and ducks are in the vicinity.

Gen. John J. Pershing visited Niobrara Reservation, Nebr., with a hunting party on October 8 and had lunch on the grounds. Warden Fred M. Dille piloted him and his party across the reservation. When he was a second lieutenant, General Pershing was stationed at old Fort Niobrara and was therefore much interested in revisiting the scenes where he began his military career. Prof. George E. Condra, of the University of Nebraska, also recently visited Niobrara and took motion pictures of the buffalo and elk in the north pasture. A large delegation from the Izaak Walton League convention at Valentine, Nebr., and many persons attending the county fair were also among the visitors at this reservation in September.

Many coots, numerous teal and wood ducks, and a few mallards were reported at Big Lake Bird Refuge, Ark., early in October.

The reservoir at Concomully Bird Refuge, Wash., is filling slowly, and ducks and other waterfowl are arriving there.

Not so many ducks as usual at this time of the year are at Belle Fourche Bird Refuge, S. Dak., but Warden George M. Wilson states that ponds in the vicinity are full of birds. The severest frost on record in that locality occurred on September 24, resulting in heavy losses of corn, potatoes, and apples.

The mountains surrounding the Elk Refuge were covered with snow the last of September, and on September 25 zero weather was reported there. An employee on September 26, noticed a large six-point bull elk enter the Refuge, the first one seen there this season and probably driven by hunters from the mountain to the east. It took shelter in a grove of aspens on a small butte within the refuge, where it seemed clearly evident that it knew that it would be protected.

The hay harvested at the Elk Refuge during the past summer amounted to 835 tons, which, with the accumulated supply, the hay owned by the State of Wyoming, and that harvested on the adjacent Izaak Walton League lands, makes approximately 4,350 tons available for feeding the elk during the coming winter.

Warden Wesley D. Parker states that many ducks, including a large number of blue-winged teal, were stopping on Sweetwater Lake within Sullys Hill Game Preserve, N. Dak., early in October and many mallards coming with the tamer ducks on the preserve to headquarters for grain. Many Franklin gulls are on the shore of Devils Lake at this place, but not many geese have been seen there this fall.

From October 1, 1925, to September 30, 1926, a total of 19,921 persons with 4,484 automobiles came to Sullys Hill Preserve, a great increase over the previous year because of the completion of the Burtness Scenic Highway, which crosses part of it. The season for visitors closed on September 30.

Large flocks of green-winged teal and some mallards are in the vicinity of the Bison Range, many mallards are on the reservation, and several thousand ducks are on Mission Creek, which crosses the Range, where they are seeking the safety of the protected area. About eight inches of snow fell at the Bison Range on September 23, and the temperature was only four degrees above zero on the morning of the 24th.

Warden A. P. Chambers, of Wind Cave Game Preserve, S. Dak., has been seriously ill since early in August, but according to recent reports from the attending physician it is hoped that he will be able to resume his duties in the near future.

Ludwig Bethel, warden of Tortugas Keys and Key West Bird Refuges, Fla., has resigned, effective October 31.

Miss Ethel N. Jett, of this division, spent her vacation during the latter part of September and early in October motoring in southwestern Virginia and western North Carolina.

IMPORTATIONS

Edward M. Ehrhorn, inspector of foreign birds and mammals at the port of Honolulu, Hawaii, resigned on September 30, 1926, to enter private employment. Mr. Ehrhorn was chief plant inspector of the board of commissioners of agriculture and forestry and was appointed to represent the Biological Survey in the inspection of importations on August 1, 1919. D. T. Fullaway, entomologist of the board of commissioners of agriculture and forestry, and L. A. Whitney, associate plant inspector, have been authorized by the Secretary of Agriculture to make inspections of birds and mammals at the port of Honolulu.

Several large shipments of birds and mammals were entered at New York during the month, and from October 11 to 16 a total of 30,553 birds were entered at that port, the duty on which amounted to about \$15,000.

The importation of foxes and other fur-bearing animals from Canada has increased considerably during the past few weeks.

MIGRATORY-BIRD TREATY AND LACEY ACTS

Mr. Sheldon, while on leave in Vermont from October 7 to 15, spoke at a meeting of the Dog River Fish and Game Club at Northfield and also called on the fish and game commissioner, at Montpelier. He spent a few days during this period shooting grouse and woodcock. He found native woodcock plentiful and reports that the stock of grouse apparently had not been much damaged by the epizootic of grouse disease, which had been sweeping the New England States.

James W. Stuber, United States deputy game warden stationed at Columbus, Ohio, is heading a collecting expedition in Nova Scotia to obtain specimens of big game for the Ohio State Museum. Mr. Stuber is a sportsman and member of the Ohio Archaeological and Historical Society, and it is in these capacities that, with another outdoorsman and two celebrated Nova Scotia Micmac Indian guides, he is going into the unspoiled wilderness for specimens of moose, deer, bear, and other big game for habitat groups for the museum. He will also make a motion-picture story of the game trails of the Land of Evangeline, and also of the tides of Fundy and of historical scenes at Grand Pré and in the land of the Micmacs. Moose, bear, and deer were once plentiful in Ohio but have been extinct there for many years, and to obtain specimens for the museum it is necessary to go to the Canadian wilds. The party reached St. Johns, New Brunswick, via the Canadian Pacific route, and from there will go to Nova Scotia across the Bay of Fundy after making scenes of the Canadian Pacific big-game country on the mainland. Officials of the Ohio State Museum plan to make that institution one of the most interesting of its kind in the Middle West through the development of the department of natural history, and will have Mr. Stuber's cooperation.

U. S. Game Warden J. V. Kelsey has been transferred from Watertown, S. Dak., to Daytona, Fla., and has now established headquarters at the latter place. He spent October 14 to 16 in Washington, D. C.

The Bureau friends of Warden P. S. Farnham are pleased to learn that he has left the hospital and returned to his home and is rapidly improving.

Motor-boat patrol in connection with the protection of migratory birds will be resumed on the Potomac River with the Curlew and a warden and engineer about November 1. The motor boat Canvasback will be stationed on Back Bay, Va., again the coming season and will have an engineer and warden aboard. The Bureau also is planning to have a warden and boat on Currituck Sound during the hunting season. The motor boats Duck and Bobolink have recently been sold, as they were of no further use to the Bureau. The Plover has been transferred from Wachapreague, Va., where it was under the supervision of Warden T. T. Bloxsom, to Salem, N. J., Warden P. K. Hilliard now being in charge.

If jail sentences and substantial fines can serve as deterrents, violations of the game laws in Missouri should be manifestly curbed. On September 27 five violators of the migratory-bird treaty act were arraigned in Federal court in St. Louis. One charged with hunting wild ducks after sunset was fined \$25; another for possessing killdeer, \$25; and three others for hunting ducks in close season, \$50, \$100, and \$250, respectively, the last of whom, being without sufficient funds, was remanded to jail until the money was forthcoming. On October 5, another offender, long known as a game-law violator, in the same court, entered a plea of guilty of killing and possessing wild ducks and coots in close season. He was sentenced by the court to 30 days in jail.

Cases Terminated --- Reports Received During September

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier	1	Missouri	Hunting ducks after sunset	\$25
"	1	"	Killing ducks in close season	\$250
Barmeier, Creech*, Heller*, Ferrier*	1	"	Possessing ducks and coots in close season	30 days in jail
Barmeier, Heller*	1	"	Hunting ducks in close season	\$100
Barmeier, Schroer*	1	"	Killing brant in close season	\$75
" "	1	"	Killing brant in close season	\$100
Birsch	1	Virginia	Killing an egret	\$10
Creech*, Riedinger*	1	Missouri	Possessing a killdeer	\$25
Ferrier*	1	"	Hunting ducks in close season	\$50
Linebaugh	1	Tennessee	Hunting doves in close season	\$25
Mestel*	1	Illinois	Killing ducks in close season	\$5
"	1	"	Killing ducks in close season	\$10
Shaver	4	Missouri	Hunting ducks in close season	\$10 each
Stadlmeir*	1	Rh. Island	Killing a goose in close season	\$1
Steele, O.D.	1	Iowa	Hunting coots after sunset	\$10 and costs of \$12.80

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Linebaugh	4	Tennessee	Killing doves in close season
"	1	"	Hunting doves in close season
Shaver	1	Minnesota	Possessing a swan
Tonkin	5	Nevada	Killing doves in close season

* U. S. Deputy Game Warden

THE SURVEY

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No. 11

GENERAL NOTES

Doctor Nelson returned on November 21 from his annual inspection trip in the West, chiefly in Utah, Oregon, California, and Arizona. The main feature of his field work was an investigation of the causes of the mortality among wild fowl which for years has occurred on the Bear River Marshes in Utah and to a lesser extent on Malheur Lake, Oregon, and Tule and Lower Kalmath Lakes in northern California. In the great Bear River Marshes the alkaline water has concentrated to such an extent that at times it has become a deadly poison and has caused the death of millions of birds. Similar conditions at Malheur Lake and other places have undoubtedly resulted in the death of myriads of ducks, geese, and other wild fowl. Annual evaporation and drainage have become so extensive that they have caused a marked decrease in the numbers of wild fowl in the Rocky Mountain and Pacific Coast States. Doctor Nelson believes that conditions in these areas can be remedied whenever funds become available for diking and other work to prevent drainage and for other improvements. The work will be particularly important in the Bear River Marshes, which is the central point from which migratory wild fowl go to the surrounding States and westward across the Sierra Nevada.

Manuscripts have been submitted for outside publication as follows:

- Buchanan, L. L. "Review of Panscopus (Coleoptera: Otiiorhynchidae)" and "Notes on a Few Louisiana Beetles Taken at Light."
- Denmead, Talbott. "Habits of Great Blue Heron."
- Jarvis, F. N. "Rats Are Good Swimmers Either Above or Under Surface."
- Jewett, Stanley G. "Netarts Bay Revisited in 1926."
- Malloch, J. R. "A New Species of Sapromyzidae from China (Diptera)."
- McAtee, W. L. "The Alien Sparrow."
- Oberholser, Harry C. "Our Friend, the Cardinal" and "Review of Heinroth's 'Birds of Middle Europe'."
- Oderkirk, Galen C. "Save Fruit Trees by Controlling Field Mice."
- Preble, Edward A. "A Plea for Our Hawks" and "March in Nature."
- Stoddard, Herbert L. "Bonny Bobwhite -- May Its Tribe Increase" and "A Cooperative Investigation of the Habits of the Quail."

The following publications were received during November:

- "Progress of Reindeer Grazing Investigations in Alaska," by Lawrence J. Palmer. Department Bulletin No. 1423-D. Received November 26.
- "Report of Chief of Bureau of Biological Survey," by E. W. Nelson. Release date, December 1.

It is with regret that the death on November 27 is recorded of Miss Anna Montgomery, who had been connected with the Office of Accounts since 1914.

Miss Mamie S. Crow and Miss Edith J. Smith, of the Office of Accounts, spent a week's vacation prior to Thanksgiving at Winchester, Va.

BIOLOGICAL INVESTIGATIONS

Dr. H. C. Oberholser made a trip on the Curlew down the Potomac River from Washington to Wide Water, Va., on November 17 to make observations on waterfowl. He reports seeing about 130,000 ducks, mostly lesser scaups, but including many black ducks, some canvasbacks, and other species, and one flock of about 1,000 redheads, a comparatively rare bird in this region. Most of these ducks were noted between Craney Island and Powell Creek and in Wide Water. This is the first of a series of observations planned for the autumn and winter.

Vernon Bailey has reported that he expected to leave Hodge, Calif., where he has been studying the fauna of the Mohave Desert, on November 24, and proceed to Los Angeles and San Diego, where he will deliver illustrated talks on the Carlsbad Cavern. Later he will go to Berkeley, Calif., to study specimens of beavers in the Museum of Vertebrate Zoology.

F. C. Lincoln gave a talk on October 27 before the Maryland Academy of Sciences, at Baltimore, on the results obtained through the application of bird-banding methods in studying migration in both Europe and America. His talk was followed by motion pictures of the bird life of the Biological Survey reservations on the Gulf Coast and on Laysan Island, in the Hawaiian Group.

Mr. Lincoln left Washington on November 25 for Chicago to attend the joint meeting of the Wilson Ornithological Club and the Inland Bird Banding Association, November 26 to 28. He delivered a talk on his experiences in banding ducks in the Bear River Marshes, Utah.

Dr. W. P. Taylor, at Tucson, Ariz., worked at intervals during October on the report on the economic relations of porcupines, embodying the results of an investigation that has been in progress for about two years. Early in the month he held a conference with W. R. Chapline of the grazing section of the Forest Service, discussing the quadrat studies being conducted on the Tonto and Santa Rita ranges to ascertain the effect of rodent work on grazing areas in the Southwest.

Theo. H. Scheffer, at Puyallup, Wash., has been continuing his investigations of the relation of rodents to bulb and root plants. He spent several days investigating the damage done by the Townsend meadow mouse to celery that had been boarded up for blanching. These mice were also observed eating cranberries, the seeds apparently being the only part they cared for.

O. J. Murie left Washington November 7 for Ann Arbor, Mich., on a seven months' furlough to pursue scientific studies at the University of Michigan.

A. Brazier Howell, of this division, is the author of a volume on "The Anatomy of the Wood Rat," published on October 27 by the Williams and Wilkins Company, Baltimore. It is a comprehensive study of the gross anatomy of a common North American cricetine rodent, the genus Neotoma. The subgenus Homodontomys has been used as the basic type, and comparisons made with the subgenera Neotoma and Teonoma. Particular attention has been paid to correlating the groups of limb muscles and to the effects of their functions and stresses upon the bones of the skeleton. This is the first of a series of monographs of the American Society of Mammalogists, under the editorship of Doctor Jackson.

ECONOMIC INVESTIGATIONS

Doctor Fisher returned to headquarters on November 20 from an extended trip of inspection and conference in the West. He reports good progress being made in the campaigns for the control of rodents and predatory animals.

A. E. Oman, leader of rodent control in Kansas, reports that he has assisted in poisoning the "last-known" prairie dog in Sedgwick County for the third time in three years but thinks it augurs well for a county when only one small center of infestation is found a year. He also reports that war against pocket gophers was resumed on the Fort Riley Military Reservation on October 12. Present infestation there is very scattering, and the poison campaign aims at absolute eradication on the 8,000 to 10,000 acres involved in the present program.

While investigating pocket-gopher damage at the Billings Polytechnique Institute, O. E. Stephi, leader of rodent control in Montana, found that these rodents had thrown up large mounds all over the campus, on the lawn in front of the main entrance, on the tennis courts, and in the roads and paths. Traps were recommended for the control of these pests.

Jack rabbits gave much trouble in Nevada during October, and B. B. Richards, assistant biologist, did some noteworthy work in poisoning them in northern Washoe County. Exposed bait killed 1,172 rabbits in one night and more than 600 the second night in the same place. More than 4,800 pounds of poisoned grain was prepared and shipped to Elko County to be freighted into the Mountain City country this fall while the roads are good and to be used on the national-forest squirrel campaign before the roads are open in spring.

Roy Fugate, junior biologist in Oregon, spent most of October on the Ochoco National Forest carrying on pocket-gopher control work in cooperation with the Wheeler County Woolgrowers Association and the Forest Service. Approximately 3,000 acres of rangelands were poisoned in the vicinity of the Derr Ranger Station. This area was selected because of its good natural boundaries on two sides and of the possibility of extending the work as interest grows. Thirty-eight days' labor was required for this poisoning work, and 30 ounces of strychnine and 500 pounds of sweet potatoes were used, at an approximate cost of $7\frac{1}{2}$ cents an acre for one poisoning.

George W. Boyd, junior biologist in Wyoming, while treating an active pocket-gopher burrow with calcium-cyanide dust, observed the dust coming up through a plug in a mound 62 feet from where the dust was being forced in and 53 feet in the opposite direction through a similar mound. While going over some porcupine dens previously treated with calcium-cyanide dust, Mr. Boyd saw only one that still showed signs of being occupied.

A. M. Day, leader of rodent control in Wyoming, has sent a card questionnaire to all persons who purchased the beef-suet magpie poison last year, of which Mr. Boyd prepared and distributed approximately 1,500 pounds in Sheridan, Johnson, and Fremont Counties. Of approximately 50 cards returned, not one reports the poison unsuccessful or other birds killed in its use.

Every card reports a lessened damage by magpies to turkeys and chickens and increased protection to livestock by using this poison. Mr. Day states that on the basis of the trial last year he will attempt to place the poison before all the communities where magpies have been doing damage.

Hunter Lewis Bakken, of Montana, who has been in the service since October, 1915, longer than any other hunter in the State; headed the list of best catches for October by destroying 7 bobcats and 43 coyotes. Hunter Walter Standish, of Lodgegrass, Mont., reports killing 43 rattlesnakes in one den on October 17. Four sheep had been bitten by these snakes, two of which died. This is the first report received in Montana of sheep killed by rattlesnake bites.

October marked another successful period of operation against coyotes and other predatory animals in Oregon. For the fall and winter poison campaign, 172 horses, 27 sheep, and one cow were donated by stockmen and placed as poison stations. Trappers reported placing 27,697 poison baits. A total of 493 dead coyotes was picked up. By the excellent work of Hunter J. Lawrence in the Blue Mountain area not a single report of losses from bears was received at the Oregon office during the month.

A campaign in Tripp County, South Dakota, has resulted in clearing the south half of that county of predatory animals. Restocking will probably occur, however, as the section borders the Nebraska sandhill region, where no systematic control measures are being carried on. Hunter W. B. Elley, of South Dakota, reported taking a badger at a farm in Wewela, Tripp County, that had during the week previous to its capture killed 250 chickens and turkeys, valued at more than \$500. The badger had buried most of its kill in holes that dug in the yards about the buildings.

F. E. Garlough, of the eradication methods laboratory, stationed at Berkeley, Calif., delivered a radio address on "Man and Rodent at War" from Station KGO, San Francisco, on October 6.

FOOD HABITS RESEARCH

Miss Florence H. Warwick has been transferred from the Navy Department to this Division as stenographer to fill the position made vacant by the resignation of F. H. Mahlman.

The "Report on Cooperative Quail Investigation: 1925-26, with Preliminary Recommendations for the Development of Quail Preserves," by Herbert L. Stoddard, in charge of the cooperative quail investigation, was published early the month by the committee representing the quail study fund for southern Georgia and northern Florida, L. S. Thompson, chairman, in cooperation with the Biological Survey. This is the second report of progress on the quail investigation. Special emphasis is given to the food of the bobwhite and possibilities of improving the supply, the control of natural enemies of these birds, and systems of management of quail preserves. The writer presents information on long-debated topics connected with the habits and life history of the bobwhite. The report contains an introduction by Doctor Nelson and a chapter on food habits of the quail by Charles O. Handley, assistant in the quail investigation. There is a limited supply of this publication for free distribution by the Bureau.

FUR RESOURCES

D. Monroe Green has left California and is now inspecting rabbitries in Washington and Oregon. He reports that the rabbit industry in the various sections along the Pacific coast is larger than he anticipated.

Bridgewater Arnold has returned to the New York office of the National Association of the Fur Industry, where he will continue to assemble statistical information gathered from the fur trade. He will return to Washington after Christmas.

The foxes at the Experimental Fur Farm are not coming prime as early as they did last year. Dr. Karl B. Hanson, in charge of the farm, thinks that this condition is caused by so much mild weather this fall. Pelting will not take place on the farm until about the second week in December.

The following leaflets have been issued for free distribution and may be procured in small quantities by field men for answering correspondence:

Raising Domestic Rabbits (Bi-904).

Ten Years of Fur Farming.

Production and Conservation of Fur-Bearing Animals.

"Breeders of Foxes," Leaflet Bi-442, has been revised and copies may be had on request.

GAME AND BIRD RESERVATIONS

The condition of the water level at Big Lake Bird Refuge, Arkansas, which was seriously affected by drainage operations in the adjacent area, has been remedied by the construction of a dam in a channel that had been cut in connection with the drainage. The dam is proving satisfactory in maintaining the water at a desirable level and at the same time does not interfere with drainage operations.

Many ducks are now at Big Lake, and the warden reports that he has seen a couple of deer on an island in the refuge and believes that there are about a dozen more within the boundaries of the reservation.

IMPORTATIONS

The season for the importation of foxes began about October 1, and up to the middle of November permits were issued for the entry of 2,209 foxes from Canada. Most of these came from Prince Edward Island and the Province of Ontario, but there were several shipments from New Brunswick and Manitoba.

Among the importations of the month was the first white elephant ever brought from Siam to the United States. This elephant arrived at the port of New York on October 15 for one of the large circuses. Among the rare birds imported at New York were 10 red-fronted lovebirds (Agapornis taranta) from East Africa and two red-fronted parrots (Amazona salvini) from Cartagena, Colombia.

A permit was issued on October 23 for the entry at Boston of the large collection of rare and interesting birds and mammals brought from Tanganyika, Africa, by the Smithsonian-Chrysler Expedition for the National Zoological Park, at Washington, D. C.

MIGRATORY-BIRD TREATY AND LACEY ACTS

Messrs. Sheldon and Denmead spent a pleasant week's annual leave on a hunting trip in Dorchester County, Md., November 9 to 13, when they had an opportunity to observe bird conditions in that section. They found woodcock in greater numbers than had been seen ^{there} for 8 or 9 years..

On November 24 Assistant Secretary Dunlap and his secretary E. H. Hughes, Mr. Sheldon, and W. R. Dillon, accompanied by Wardens Creighton, Stadlmeir, and Trenis, spent a day together hunting ducks on the Potomac. They report a very successful trip and the ducks unusually abundant on the river.

Sympathy of the Bureau is extended to Miss Eugenia M. Lane, of this division, in the death of her mother, Mrs. Jennie Lane, which occurred suddenly in Washington, D. C., on November 1.

Warden J. E. Perry, of Memphis, Tenn., had the misfortune on Sunday, October 24, to break his left leg while on patrol duty on Mud Island between the Wolf and Mississippi Rivers. His friends in the Bureau wish him a speedy recovery.

Warden P. S. Farnham resumed active duty on November 1 after an illness of several weeks and advises that his health is much better.

Albert Stadlmeir, of Lackawanna, N. Y., was reinstated as U. S. game warden, effective November 1, for patrol work on the Potomac River and its tributaries. Z. G. Forbes, of Bertha, N. C., was appointed on November 11 as U. S. game warden for patrol work on Currituck Sound. Harry P. Ford, of Phoebus, Va., was appointed effective November 1 as marine gasoline engineer on the Bureau's motorboat Canvasback, which ^{is being} used in patrolling Back Bay, Va., during the hunting season.

Warden W. H. Ransom reports that shortly after sunrise on October 23 he noted a large flock of wild swans flying westward over Ephrata, Wash. He counted 27 birds in the flock and states that their yodeling sounds were quite musical.

The following is quoted from Warden O. D. Steele's report for the week of October 24: "This week produced two unusual sights. On Monday night, October 25, Warden John Q. Holmes and I were on the flooded cornfields at Turin, Monona County, Iowa, at sunset and remained until total darkness. The sun set at 5:30 p. m., and at 6:05 p. m. I heard a noise that resembled a high wind in the distance. It appeared to draw closer and when finally overhead it made talking in a natural tone inaudible. It was the noise of millions of birds' wings. I was in the act of backing violators, and the position did not permit view of the light in the west but occasionally I could see the birds, which resembled a swarm of bees. Three minutes later the birds began to swoop down

into the field and countless thousands passed within ten feet of us, some missing us only by feet. When I returned I hardly dared to relate my story to Holmes but he brought the subject up first. He had been in a more favorable position and had obtained full view of the birds. They were coots and, as John says, it would be impossible to estimate the number. To quote Holmes, 'They just rained down out of the sky for about 5 minutes.' The noise was something neither of us had ever heard. The next evening at sunset, at Round Lake, Harrison County, we saw more than ten times the number of blackbirds that either of us had ever seen at one time."

A recent checking of 2,970 reports of operations submitted by holders of Federal propagating permits shows that 1,004 permittees raised in captivity, during 1925, 41,310 wild ducks and 2,922 wild geese of various species. Mallards, black ducks, wood ducks, and Canada geese predominated. During the year 21,075 ducks raised in captivity were killed under permit and their carcasses sold or used for food purposes, and 8,276 were sold for propagation. Fifty-eight geese propagated under permit, were killed and sold or used for food purposes, and 3,776 were sold for propagation.

On September 14, three offenders were arraigned in Federal Court for the Western district of Missouri for hunting wild ducks during close season and find \$75 each. Another offender arraigned in Federal Court on October 22 in the eastern district of Missouri was given a similar fine for possessing ducks in close season. Such substantial fines should be of influence in bringing about a better observance of the game laws in that State.

Deputy Game Warden E. W. Scholler, operating in the Fox Lake section of Illinois during the early part of October, apprehended 25 persons for violating the migratory-bird treaty act. Eighteen of the cases involved hunting from powerboats, two shooting at terns, three shooting at grebes, and two hunting wild ducks after sunset.

Federal Game Warden Shaver, in company with State Game Warden J. O. Watters, apprehended two hunters at Long Lake, Minn., on October 14, for hunting wild ducks after sunset. One of these gunners, who was wearing a pair of bog shoes on the lake, which is a rice bed, in the excitement tripped and fell into the lake, which was nearly frozen over. The wardens, however, were able to reach and rescue him.

Cases Terminated -- Reports Received During October

<u>Warden</u>	<u>Case</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier	1	Missouri	Hunting ducks in close season	\$50
"	1	"	Hunting ducks after sunset	\$25
Barmeier, Heller*	1	"	Hunting ducks in close season	\$50
" "	1	"	Possessing ducks and yellowlegs in close season	\$50
Barmeier, Heller*, Ferrier*, Creech*	1	"	Possessing ducks in close season	\$75
Clausen***	1	Illinois	Killing ducks in close season	\$25
Creech*, Riedinger*	1	Missouri	Hunting ducks in close season	\$50
Heller*, Twillman**	1	"	Hunting ducks after sunset	\$10
King*	2	S. Carolina	Hunting ducks after sunset	\$10 each and costs
Ransom, McGee*	1	Idaho	Killing a goose in close season	\$25
Roahen, Scholler*	1	Illinois	Possessing ducks in storage in close season	\$25 and costs
" "	1	"	Possessing ducks in storage in close season	\$15 and costs
Schroer*	1	Missouri	Hunting ducks in close season and shooting from motorboat	\$50
Shaver	3	"	Hunting ducks in close season	\$75 each
Shaver, Kelsey	1	"	Possessing ducks in close season	\$1
" "	1	"	Hunting ducks in close season	\$10
Shaver, Schroer*	3	"	Hunting ducks in close season	\$10 each
Steele, Hough**	1	Iowa	Hunting ducks after sunset	\$10 and costs of
" "	1	"	Hunting ducks after sunset	\$23.55 \$10 and costs of
" "	1	"	Possessing a sandpiper	\$23.50 \$20 and costs of
Steele, Larsen**, Russell**	1	"	Hunting ducks after sunset	\$23.10 \$10 and costs of
" " "	1	"	Hunting ducks after sunset	\$60.01 \$10 and costs of
Walz*	1	Arkansas	Killing a duck from motorboat	\$35.53
Whitehead	1	Georgia	Possessing doves in storage in close season	\$20. \$1
"	2	"	Possessing ducks in storage in close season	\$1 each
Whitehead, King*	1	S. Carolina	Killing a wood duck	\$10 and costs
Whitehead, Skipper**	4	Georgia	Hunting doves prior to half an hour before sunrise	\$10 each

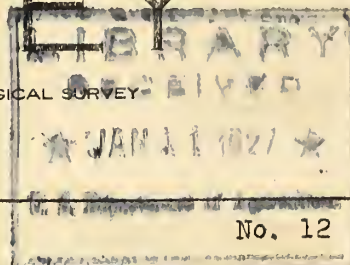
Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barmeier	1	Missouri	Hunting ducks in close season
"	2	"	Hunting geese in close season
Barnes*	3	Oregon	Killing ducks in close season
Birsch, Creighton*	2	Virginia	Killing sora in excess of bag limit
Clausen***	1	Illinois	Killing ducks in close season
Earhart**	1	Louisiana	Possessing ducks in close season
Jans*	1	Illinois	Possessing a rail in close season and a woodpecker
Linebaugh	1	Tennessee	Hunting doves in close season
McGee*	1	Idaho	Killing ducks in close season
Ransom, McGee*	1	"	Killing a goose in close season
Shaver	1	Minnesota	Possessing a goose in close season
Shaver, Rogalla*	1	"	Hunting ducks after sunset
Whitehead	3	Georgia	Killing doves in close season
Whitehead, Boggus**	5	"	Killing doves in close season
Whitehead, Hartley*	3	"	Killing doves in close season
Whitehead, Rowland*	5	"	Hunting doves in close season

* Federal deputy game warden
 ** Deputy State game warden
 *** Constable

THE SURVEY

ISSUED MONTHLY FOR THE PERSONNEL OF THE BUREAU OF BIOLOGICAL SURVEY
UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 12

Office of Chief of Bureau
December 30, 1926

TO FELLOW MEMBERS AND COOPERATORS OF THE
BIOLOGICAL SURVEY:

With the return of the holiday season it gives me pleasure again to send you a few words of friendly greeting. Here, in the central office, we fully realize and appreciate the individual contributions from you which go to make the yearly sum of the Bureau's accomplishments. With this in mind I extend to you all and to your families my heartiest good will and best wishes for your health and happiness during the coming year.

Sincerely,

GENERAL NOTES

Representatives of the Bureau who attended the Thirteenth National Game Conference of the American Game Protective Association, held at the Pennsylvania Hotel, New York City, December 6 and 7, included Doctor Nelson, Mr. Henderson, Doctor Fisher, Mr. Sheldon, Talbott Denmead, W. R. Dillon, and Herbert L. Stoddard. The conference was probably the largest ever held, representatives from 45 States, Canada, and Alaska being present. Doctor Nelson delivered an illustrated address on "Mortality of Migratory Birds on Western Marshes" and several hours were devoted to the discussion of the subject, which brought out many new facts concerning the status of western wild fowl. Doctor Fisher submitted a report on the progress of the Vermin Classification Committee, and Mr. Stoddard reported further in connection with the cooperative quail investigation. The annual banquet held by the conference on the evening of December 7 was attended by approximately 600 wild-life conservationists. Addresses were delivered by Col. Theodore Roosevelt and Hon. J. B. Harkin, Commissioner of Canadian National Parks. Following these talks, George Palmer Putnam presented the final and complete edition of the motion pictures taken on his Greenland expedition.

Dr. H. Prell, of the Zoological Institute of the Forest High School, Tharandt, Germany, visited offices of the Bureau early in the month. He was particularly interested in matters pertaining to the production of fur-bearing animals and to the control and destruction of rodents and predatory animals. He also visited the Experimental Fur Farm at Saratoga Springs, N. Y., and discussed animal diseases and parasites with Dr. Karl B. Hanson.

Seth E. Gordon, national extension director of the Izaak Walton League of America, called at various offices of the Bureau on December 9 to discuss matters relating to game conservation. Other persons who visited the Bureau the same day were S. F. Rathbun, supervisor of game and game fish of the State of Washington; D. H. Madsen, State fish and game commissioner of Utah; J. F. Gould, State game and fish commissioner of Minnesota; and W. E. Albert, State fish and game commissioner of Iowa.

M. S. Crosby, ornithologist of Poughkeepsie, N. Y., visited offices of the Bureau on December 18.

The following publication of the Bureau was issued in December:

"Construction and Operation of Biological Survey Beaver Trap," by Vernon Bailey. Miscellaneous Circular 69; revised, November, 1926; received, December 15.

Manuscripts have been submitted for outside publication as follows:

Bailey, Vernon. "Animal Life of Yellowstone Park."
Couch, Leo K. "A Strange Storing Habit of Microtus townsendii."
Day, Albert M. "Magpie Control in Wyoming."
Denmead, Talbott. "Hunting in Maryland" and "Fish Refuges."
Dufresne, Frank. "The Antlered Region."
Jackson, Hartley H. T. "Review of Audubon's 'Delineations of American Scenery and Character'."
Lincoln, Frederick C. "The Migration of Young American Herring Gulls."
Malloch, J. R. "A New Species of the Genus Fannia R.-D. from North America (Diptera: Anthomyiidae)" and "Some Indian Chloropidae (Diptera) of Economic Importance."
McAtee, W. L. "Nomina Conservanda from the Standpoint of the Taxonomist" and "Revisional or Provisional Identifications."
Moore, A. W. "Extension of Range of Two Members of Thomomys douglasii Group."
Oberholser, Harry C. "October and November Birds about Washington, D. C."
Oderkirk, Galen C. "Get Mr. Rat," "About Mr. Groundhog," and "Field Mice Attack Fruit Trees."
Preble, Edward A. "Books on Bird Migration," "Nature Calendar: March," and "Nature Calendar: June."
Silver, James. "The Rat a Menace to Hotels."
Stephl, O. E. "Prairie Dogs in Montana."
Taylor, Walter P. "Ecology or Bio-ecology" and "Relation of Animals to Weather and Climate."

BIOLOGICAL INVESTIGATIONS

Doctor Jackson attended the sessions of the American Association for the Advancement of Science, held in Philadelphia, December 26 to January 1. He is a member of the Council of the Association as well as of the Section F Committee (Zoology).

Vernon Bailey returned to Washington on December 15 after several weeks in California and Nevada, where he has been combining scientific studies with a pleasurable vacation. Studies of the flora and fauna of the Mohave Desert brought out many interesting changes since he first explored the region about 35 years ago. Specimens of a number of interesting species were taken for the Biological Survey collection. After completing these studies he visited Los Angeles, San Diego, La Jolla, Escondido, San Francisco, and Alameda, Calif., and Fallon, Nev., where he gave talks on the Carlsbad Cave and its animal life at several museums and schools. He also made a study of the extensive series of beavers in the Museum of Vertebrate Zoology, at Berkeley, Calif.

Dr. H. C. Oberholser made trips down the Potomac River on November 29, December 7, and December 15, to investigate the numbers and species of ducks frequenting the river at this time of year. His observations indicate a considerable decrease in the total number of ducks since the middle of November, although canvasbacks have greatly increased in numbers during this period. Lesser scaups, however, were almost entirely absent on his last trip.

F. C. Lincoln reports that a pintail duck, banded by Dr. Alexander Wetmore at the mouth of Bear River, Utah, September 16, 1914, was captured near Brawley, California, on October 16. This constitutes a world record as far as longevity of a banded bird is concerned, the longest previous record being that of a white stork (*Ciconia ciconia*), which carried a band of the Rossitten (Germany) Bird Observatory for eleven years.

Mr. Lincoln gave a talk on "The Migration of Young Herring Gulls" before the Biological Society of Washington on December 18.

Dr. W. P. Taylor devoted a considerable part of November to the preparation of his report on the results of the porcupine investigation. On November 17 he conferred with Doctor Nelson, who was then visiting Phoenix on his western tour. A group of about 30 local biologists, with Doctor Taylor as chairman, gathered for dinner at the Pueblo Club, at Tucson, on November 18. Representatives were present from the Desert Laboratory of the Carnegie Institution of Washington, the University of Arizona, the Boyce Thompson Southwestern Arboretum, at Superior, Ariz., and from the Forest Service, the Bureau of Entomology, and the Biological Survey. On November 26 and 27, Doctor Taylor examined the cooperative experiment area on the Santa Rita Reserve. He

has submitted a chart outlining the proposed work of the Division of Biological Investigations in the Southwest, and showing the relation of the work of this division to that of the other divisions of the Bureau.

Theo. H. Scheffer continued his studies during the month on the relation of various rodent pests to plant growth. An important part of this work includes experiments with various species with a view to determining their food preferences. Tests were made with a number of white-footed mice, and similar experiments with several species of meadow mice are in progress. The results obtained in the laboratory will be checked with the known activities of mice about home gardens and bulb plantations.

Specimens of mountain sheep have been presented to the Biological Survey collection by J. M. Holzworth, of White Plains, N. Y., who collected them during the hunting season just closed. These specimens taken in connection with a considerable number that Mr. Holzworth has previously presented to the Bureau during several hunting seasons will form a valuable addition to our study series.

ALASKA INVESTIGATIONS

A bonfire of furs was a novelty recently adopted by employees of the Alaska Game Commission at Juneau. One mink skin and 255 muskrat skins, which had been seized and forfeited in law-enforcement work in the Territory, were burned. The skins were so unprime as to be worthless and entirely unfit to be placed on the market, but would have been worth about \$400 had they been in prime condition.

An alien, of Fairbanks, Alaska, was recently tried and fine \$500 for dealing in furs without a license, in violation of the Alaska game law. A native Indian not long ago was fined \$25 for shooting a beaver. These cases were obtained by Game Warden Frank Dufresne.

The following prosecutions under the Alaska game law are reported by the Alaska Game Commission; evidence in all cases was obtained by Warden Goddard: A fur buyer, of Wrangell, Alaska, on October 4, was fined \$120 and costs of \$9.20 for failing to keep records of fur-buying transactions; a canning company, of Tyee, was fined \$50 and costs of \$5.05 on September 28 for serving game birds to its employees; a nonresident hunter, of Petersburg, was fined \$25 on September 28 for hunting without a license; and a merchant and fur dealer, of Petersburg, was fined \$25 and costs of \$4.20 on September 29 for purchasing and possessing an unbranded blue-fox skin that had been sold to him in violation of the Territorial act.

ECONOMIC INVESTIGATIONS

O. E. Stephi, leader of rodent control in Montana, reports both evening grosbeaks and Bohemian waxwings present in large flocks in Bozeman during November. The waxwings had made short work of fruit on Mountain-ash trees and were eating buds on poplars, and the grosbeaks were eating the seeds of boxelders. Mr. Stephi also reports considerable damage by field mice at a small place near Bozeman where these rodents were cutting off perennials just below the surface of the ground.

O. E. Gillham, in charge of predatory-animal control in Illinois, has noticed a scarcity of skunks in his section and suggests that it may be due to continued wet weather preventing them from raising their young this year. Persons have reported seeing dead skunks, probably the result of an epizootic among them. Fur buyers in Illinois report less than one-tenth the usual number of skunk skins coming in to them this year.

In spite of persistent rains and soft, slushy snow over practically the entire State during November, excellent progress was made in poison operations in Oregon against predatory animals. One hundred and seventy-two additional horses, four head of cattle, and eight sheep were used in making poison stations, and 42,328 special baits were placed by hunters. The pick-up of 389 coyotes does not represent more than a third of those actually killed, since, in a number of instances, hunters put out many well-baited stations and did not return to look for dead animals.

In order to protect antelope on and about the antelope pasture in Harding County, South Dakota, a hunter has established poison lines in the vicinity. At the Niobrara Game and Bird Reservation, Nebraska, a Federal hunter has begun poison operations extending over a radius of 25 miles in Cherry County, Nebraska, and at the Rosebud Indian Reservation, South Dakota.

When Hunter Jens Holst, of South Dakota, visited the Niobrara Reservation this month to take up poisoning operations there against coyotes and bobcats, he found, at an old poison station that he had established in April in the elk and buffalo pasture, the carcasses of five coyotes that had taken baits after his last visit early in spring. During the same week Mr. Holst visited some poison stations that he baited in August, 20 miles north of this reservation, and found nine partially decayed coyote carcasses about them. A ranchman in this locality reported finding eight coyotes that had been killed at poison stations after Mr. Holst left the vicinity in August.

During the past three years conditions in Texas have been so favorable to raising sheep and goats that the area devoted to this industry is being constantly extended, and along with many improvements public interest is growing in controlling predatory animals, which are recognized as one of the greatest sources of loss to the industry. This growing interest in the predatory-animal problem has been especially noticeable in the north-central and the extreme western parts of the State.

R. Scott Zimmerman, leader of rodent control in Utah, made arrangements during November with the county agent of Cache County to start immediate action for the control of field mice, and as a result about 300 ounces of strychnine were used by Cache County farmers for treating steam-rolled oats as baits. Field mice in this county have caused considerable damage to alfalfa and beet crops and have become so numerous that they are working in irrigation ditches and along fences and roadways.

FOOD HABITS RESEARCH

On his return from the meeting of the American Game Protective Association, in New York City, Herbert L. Stoddard stopped in Washington for a few days' conference. In addition to consulting with Doctor Nelson and other officials of the Bureau, Mr. Stoddard discussed various problems arising in the quail investigations with specialists of the Bureau of Animal Industry.

"Relation of Birds to Woodlots," published as a bulletin of the Roosevelt Wild Life Experiment Station of the New York State College of Forestry at Syracuse, and "The Role of Vertebrates in the Control of Insect Pests," published in the Report of the Smithsonian Institution for 1925, are the titles of two recent papers of Mr. McAtee. The former is based largely on data in the files of this division, and the latter represents information procured principally from field observations of ornithologists and entomologists throughout the country.

FUR RESOURCES

D. Monroe Green returned on December 6 from his western trip to California, Oregon, and Washington, where he inspected methods of producing, handling, and marketing domestic rabbits. In southern California, especially in the Los Angeles district, raising domestic rabbits for meat and fur has become an important industry, and rabbit is served in nearly every high-class hotel and restaurant. The supply of rabbit meat exceeds the demand, and both rabbit meat and pelts are selling at prices that net good profits to the producer. This is also the case in Oregon and Washington, although the industry is not so far advanced in these States and is conducted on a less extensive scale. The future outlook is so promising, reports Mr. Green, that large breeding and marketing organizations are being formed. One new plant is being built to accommodate 100,000 breeding animals, with an annual output of approximately 8,000,000 pounds of rabbit meat a year. Another \$1,000,000 marketing plant was recently completed for the manufacture of meat products, such as fresh smoked-rabbit sausage, jellied and pressed rabbit meat, and meat loaf. The rabbits are killed daily, and Los Angeles and other markets are supplied every morning with fresh rabbit meat. According to present plans it will not be long before dressed rabbits will be shipped from California to New York and other eastern markets.

Dr. Karl B. Hanson addressed the Lions Club of Saratoga Springs, N. Y. on December 11, on the work of the Experimental Fur Farm and the benefits derived by fur farmers from the experiments carried on there.

Mr. Ashbrook, on the evening of December 7, as a guest of David C. Mills, of the National Association of the Fur Industry, attended the banquet of the American Game Protective Association, held in connection with the National Game Conference in New York City. While in New York he also attended a meeting of raw-fur men, where suggestions for improved fur laws were discussed.

GAME AND BIRD RESERVATIONS

Mr. Goldman returned to Washington on December 13, after three months in the West where he visited the National Bison Range, Mont., the Elk Refuge, Wyo., and various bird reservations along the Pacific coast. In cooperation with officials of the Forest Service, the National Park Service, and State game commissions, he made a study of the surplus-elk problem in the Yellowstone National Park region and of conditions affecting the elk in the Olympic Peninsula. He also visited the Kaibab plateau, and investigated further the excessive numbers of deer and the destruction of forage and forest reproduction in that section.

Lisle Morrison spent a week recently in Philadelphia supervising the dismantling of the Bureau's exhibit at the Sesquicentennial Exposition and arranging for shipping the exhibit to the Government warehouse at Alexandria, Va.

An important addition was recently made to the lands of the Upper Mississippi River Wild Life and Fish Refuge through the closing of contracts for the purchase of large areas in the section known as the Winneshiek Bottoms.

Stormy weather with some snow has been reported at the Elk Refuge, Wyo., since the middle of November. Approximately 3,500 elk are on the Refuge and adjacent lands.

Warden A. P. Chambers, of the Wind Cave Game Preserve, S. Dak., who has been seriously ill for several months, has recovered sufficiently to resume his duties at the preserve. During Mr. Chambers's absence, Roy Brazell, superintendent of Wind Cave National Park, supervised the work at the preserve, through the courtesy of the National Park Service.

A three-inch rainfall during November at Lake Malheur Bird Reservation, Oregon, has greatly benefited conditions for the birds there.

Miss Alethea M. Gerlach has recently been appointed stenographer in the Winona office.

MIGRATORY- BIRD TREATY AND LACEY ACTS

The annual meeting of the Advisory Board, Migratory Bird Treaty Act, was held at the Cosmos Club, Washington, D. C., on December 9, with 18 members in attendance.

Mr. Sheldon attended a conference and banquet held by the New Jersey State Fish and Game League, at the Robert Treat Hotel, Newark, on December 1,

and also the annual conference of the New York State Fish, Game, and Forest League, at Utica, N. Y., on December 2 and 3. At both meetings he delivered an address on "A Consideration of Game Preservation." Reports received by Mr. Sheldon from the sportsmen in New Jersey indicate that woodcock were more numerous in that State this year than for many years. He received similar reports at Utica.

U. S. Deputy Game Warden James W. Stuber, of Columbus, Ohio, has returned from the hunting expedition to Nova Scotia which he headed in the interests of the Ohio State Museum and the Ohio Archaeological and Historical Society. An unusually large specimen of bull moose, a cow moose, and a black bear were brought back for exhibition, and about 2,500 feet of motion pictures were taken of the moose hunt and of the wild life in Nova Scotia. Mr. Stuber reports that Canadian sportsmen are highly pleased with the results of the Migratory-Bird Treaty in bringing about a substantial increase in the numbers of wild ducks, geese, and other migratory game birds, and that the Treaty provisions are well enforced in Nova Scotia. Mr. Stuber attended the National Game Conference in New York City on December 6 and 7, and later visited in Washington. While in Washington, in company with E. H. Hughes, of the Secretary's Office, he accompanied Warden Stadlmeir on one of his patrol trips down the Potomac River to observe conditions and to collect specimens for an exhibit he is preparing for the Ohio State Museum.

Miss Eugenia M. Lane, stenographer in this division, has resigned, effective December 18. Best wishes of the Bureau are extended Miss Lane as she leaves.

Cases Terminated -- Reports Received During November

<u>Warden</u>	<u>Case</u>	<u>State</u>	<u>Violation</u>	<u>Fine</u>
Barmeier	1	Missouri	Possessing a goose in close season	\$10
"	2	"	Hunting ducks in close season	\$10 each
"	2	Kansas	Killing ducks in close season	\$5 each
Barmeier, Ott**	1	Missouri	Hunting ducks in close season	\$25
Birsch, Curling**	5	Virginia	Possessing snipe and sandpipers in close season	\$10 each
Breaux**, Hunter**, Holland	1	Louisiana	Possessing a dove in close season	\$25 and 3 months in jail
"	1	"	Possessing bitterns	\$50 and 3 months in jail
"	1	"	Possessing doves and a bittern in close season	\$50 and 3 months in jail
Holland*, Earhart**	1	"	Possessing ducks in close season	3 months in jail
Holland*, Pertuit**, Hilliard	2	"	Possessing snipe, coots, and ducks in close season	\$50 each and 3 months in jail
Hilliard	1	New Jersey	Offering to purchase ducks	\$1
Hilliard, Pierce*	1	"	Shooting ducks after sunset	\$25
Linebaugh	5	Tennessee	Killing doves in close season	\$25 each
Rogalla*	1	Minnesota	Hunting ducks after sunset	\$10
Roahen, Scholler*	1	Illinois	Possessing ducks in storage in close season	\$15
Shaver	1	Missouri	Killing ducks in close season	\$10 and costs of \$24.30
"	3	"	Hunting ducks in close season	\$10 each
Shaver, Kelsey	2	"	Hunting ducks in close season	\$10 each
Shaver, Schroer*	2	"	Killing ducks in close season	\$10 each
Smith, Foley*	1	Maine	Killing a duck in close season	\$10
Steele*	1	Missouri	Possessing ducks in close season	\$30 and costs of \$26.00
Steele*	1	"	Possessing ducks in close season	30 days in jail
Tonkin	2	Nevada	Possessing doves in close season	\$20 each

Cases Reported for Prosecution

<u>Warden</u>	<u>Cases</u>	<u>State</u>	<u>Violation</u>
Barmeier, Creech*	1	Missouri	Killing a grebe
Ferrier*			
" " "	1	"	Shooting at a loon
Barmeier, Ferrier*	1	"	Shooting at a grebe
" " "	1	"	Possessing a grebe
Blackwell*	2	Illinois	Shooting at a grebe
Giesler*	1	"	Killing a coot in close season
Hoffman, Moody**	3	Alabama	Killing doves in close season
Holland*	2	Louisiana	Possessing doves in close season
Holland*, Breaux**	1	"	Possessing doves and bittern in close season
Hunter**			
" " "	1	"	Possessing bitterns
Holland*, Earhart**	2	"	Possessing snipe, coots, and ducks in close season
Pertuit**			
Holmes, Korb*	3	Nebraska	Hunting ducks after sunset
Jans*	3	Illinois	Possessing insectivorous birds
Ransom, Ham**	2	Washington	Possessing ducks and coots in close season
Riddick	1	Arkansas	Possessing grebes
"	1	"	Possessing geese in close season
Riddick, Harris*	1	"	Possessing a duck in close season
Roahen	3	Illinois	Hunting ducks after sunset
Scholler*	15	"	Killing coots from motorboat
"	3	"	Shooting at coots from motorboat
"	4	"	Shooting at grebes
"	2	"	Shooting at grebes and terns
Shaver, Beals**	3	Minnesota	Hunting ducks after sunset
"	1	"	Possessing ducks in close season
"	2	"	Hunting ducks in close season
"	1	"	Shooting at coots in close season
"	1	"	Possessing a grebe and a coot in close season
Smith*	1	Wisconsin	Hunting coots after sunset
Steele	15	Iowa	Hunting ducks after sunset
"	1	"	Possessing a killdeer
Steele, Holmes	9	"	Hunting ducks after sunset
Steele, Polck*	2	"	Hunting ducks after sunset
Tonkin	1	California	Possessing avocets
Whitehead	7	Georgia	Killing wood ducks

* Federal deputy game warden

** State deputy game warden

